

# The Gaelic Gasp\* and its North Atlantic Cousins:

## A study of Ingressive Pulmonic Speech in Scotland

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## ***ABSTRACT***

The work presented in this dissertation grew from a general dialectal study carried out in Morayshire and Aberdeenshire, which identified and recorded the use of ingressive pulmonic speech (IPS) in the interjection 'aye'.

Tentatively, I was able to link this with reported speech from County Cavan, Ireland, and further investigation revealed the feature to be part of a widespread phenomenon heard throughout the North Atlantic.

Whilst some research had been carried out in Scandinavia, the USA and Newfoundland, there was less non-anecdotal evidence for pulmonic ingressive use in the English and Gaelic varieties of Great Britain and the Republic of Ireland, particularly the varieties found in Scotland. This study constitutes a step in addressing this gap.

The results of the study carried out in Scotland support the theory that the pulmonic ingressive spread in the North Atlantic region through a language contact scenario spanning many centuries.

A variety of research methods were used, including a large scale survey, a method not used in previous studies of IPS. More conventional methods of finding examples by searching in recorded conversation and noting occurrences of IPS in general conversation were also used. Whilst many of the findings concurred with those of other studies, some interesting questions were raised, which revealed scope for further investigation.

Included are some clear recorded examples, an estimate of the geographical spread of the feature in Scotland, and a discussion of the context in which IPS is employed. I will consider the pragmatic meaning of IPS and the reasons (both phonetic and sociolinguistic) why a speaker may or may not use it at a particular time, comparing my findings with those of studies undertaken in Newfoundland, the USA and Scandinavia.

## ***INTRODUCTION***

In the spring of 2005, as part of a project on dialect and accent, I recorded the speech of my family and their friends in Morayshire, Scotland. An excerpt from one conversation went as follows:

***Female A:*** *See I thought it might be another word for skirly, cause that's what they used to eat in the old days wasn't it, mince, tatties and skirly.*

***Female B:*** *Aye*

***Female A:*** *I wouldn'a have thought it was peas.*

Female B's utterance was an example of what I later discovered was called Ingressive Pulmonic Speech (IPS), speech pronounced using an intake of breath, like a gasp. Citing Allwood (1988) and Kobayashi (2001), Eklund (2002:837) states that IPS can be misinterpreted as surprise, severe shock, or a sign of a heart condition or suffocation.

After noticing IPS in the speech of female B, I realised her husband (whom I will call male B) did the same thing. I spent a week with them when they visited London, and heard them use IPS many times, always on the tokens 'aye' or 'yep'. Both speakers have lived in Morayshire all of their lives, and although female B uses IPS more frequently, Male B told me that his parents also used it, and did so on a variety of token words, including "wee!" or "well".

A few months earlier a friend of mine had visited his uncle's farm in Co Cavan. When he returned he did an impression of something 'strange' he said

he had heard there. What he had demonstrated, though I did not yet know it, was IPS on the word 'yep'.

Assuming that this strange gasp was part of the same phenomenon, I wondered if it was a remnant of Gaelic, as this would have been a common influence in Irish and Scottish accents. I contacted Professor John Harris in the linguistics department of University College London, Mark Wringe, a Gaelic tutor at Sabhal Mòr Ostaig, and Professor Roibeard Ó Maolalaigh at the Celtic Department of Glasgow University. They all recognised the sound, and Professor John Harris was able to confirm that it was not particular to Cavan, but heard elsewhere in Ireland.

Mark Wringe put me in touch with Dr Will Lamb, a Gaelic tutor at Colaiste a' Chaisteil in Benbecula, and in his grammar, *Scottish Gaelic* I found a paragraph about the sound I had heard, identifying it as IPS.

'One remarkable Gaelic characteristic is Ingressive Pulmonic Speech. This is particularly pronounced, and most frequently heard with interjections, particularly 'aye', which can sound like the speaker, whilst agreeing with his or her addressee(s), is simultaneously inhaling. But multi-syllabic words, phrases, and even entire monologues – in particularly skilled 'circular breathers'- can be performed ingressively.' (Lamb 2003: 96 – 97).

Lamb lists some common interjections found in the speech of islanders from Uist, one of which (*uell uell*: well well), he says 'should be performed ingressively for full effect'. (Lamb 2003: 97).

According to Lamb, IPS occurs in Scotland on interjections, whether in Scots Gaelic, Scots, or Scottish English, and occasionally on word strings – at least in a number of speakers from the Western Isles (Lamb, personal communication). Lamb also drew my attention to the fact that the phenomenon was not restricted to Scotland and Ireland. He first heard it in Cape Breton and 'throughout Maritime Canada (settled by Gaelic speakers in large numbers) and in Ireland' (Lamb 2003: 97). He adds that 'if it were not also a feature of some Scandinavian speech (possibly an indication of its origins), it could be appropriately called the 'Gaelic Gasp'. (Lamb 2003: 97).

Anecdotal evidence seemed to suggest that IPS was common in Scotland, at least in some areas. However, I found no previous research from Scotland, only one small study from Ireland, and many unanswered questions. The lack of research on IPS had led (at least at one time) to the belief that it did not occur in Scotland at all. In private communication with Peters as part of his 1981 PhD thesis research on IPS in Maine, David Abercrombie indicated that it was not heard in Scotland (Peters 1981: 17). More recently researchers have recognised that IPS does occur in Scotland, but have not been able to give much detail. (e.g. Clarke and Melchers, forthcoming; Shorrocks, 2003).



Studies of IPS have been conducted in other regions where IPS occurs, including Newfoundland, New England, Iceland, Ireland and Scandinavia. In the next section I will review this work, the results of which suggest that IPS spread through a language contact scenario.

My expectation was that the varieties and usages of IPS in Scotland would mirror those abroad, because studies across the North Atlantic area shared many findings. I thought it would be interesting to compare any differences that did suggest themselves in Scotland.

The methods and presentation of my own research will follow the literature review.

## ***LITERATURE REVIEW***

Several articles on IPS have appeared in the USA, Canada and Scandinavia in the past, and work has been carried out in this field for a number of unpublished Masters Theses and one PhD.

Whether undertaken in Scandinavia (the eastern frontier where IPS is used), or in Newfoundland (the western frontier), studies concentrated on a number of similar issues. I will deal with each of these in turn:

- Gender
- The power dynamic between speakers and listeners
- The context in which IPS is used
- Cultural considerations
- Historical and geographical considerations
- Phonetics

### **Gender**

Peter's 1981 PhD thesis looks from a sociolinguistic point of view at what he calls the 'paralinguistic sympathetic ingressive affirmative' heard in the speech of the island community of Vinalhaven, Maine, an area which 'sustained a heavy influx of Scandinavian (Swedish and Norwegian) immigrants during the late nineteenth and early twentieth centuries' (Peters 1981:11-12).

Peters compares use of IPS in Vinalhaven and Norway, with discussion of its occurrence in other English speaking countries. He pays particular attention to the use of IPS by men and women. In most studies, including this one, IPS was found to be associated principally, though not exclusively, with women. Hill and Zepeda state that biological reasons may partially explain this tendency (Hill and Zepeda 1999:37). Their work will be discussed in the section on phonetics.

Peter's 1981 study in Norway was conducted on public transport in three cities. Overheard conversations were recorded in a notebook and care was taken to analyse the age and gender of participants, speaker and listener roles, and the number of ingresses used. In addition, television shows were watched for recorded examples of IPS.

Despite Peters' statement that Norwegian linguists at the University of Trondheim were undecided over whether IPS was more common in the speech of women or men (Peters 1981:31), findings from both the public transport research and the television programmes showed that women were using the ingressive to a greater degree (Peters 1981:99).

In the Vinalhaven study, Peters gathered examples over a period of ten months in the 1970s, whilst resident and working as a teacher on the island. He gathered information from men, women and children of all ages and professions, and returned to the Island after five years to carry out a follow up study, confirming his fascinating findings.

The findings showed that all natives of the island probably used IPS as youngsters. All preschoolers and primary children were ingressive users, as were all women who remained on the island after finishing high school. What was most interesting in this study was that male high school students gradually stopped using IPS, if and only if, they chose to go into marine based employment. Significantly, the use of ingressives did not decrease in the speech of males who intended to leave Vinalhaven or find land based employment.

In addition to his larger scale studies in Norway and Vinalhaven, Peters also carried out a study in Dublin to see if male-female use of ingressives would be similar in Ireland. He found that 'ingressives used by Dublin informants with respect to female and male usage are better than 10 to 1' (Peters 1981:45). Almost all of the ingressives he heard were used in female-female conversations, but one was uttered by a female talking to a male. No ingressives were heard in male-male conversations, and there was only one example of a male using an ingressive in talking to his female supervisor. The informants were aged from their early teens to late sixties.

In general Peters heard fewer examples of the ingressive in Ireland, and felt that the reason for this was that both male and female Irish speakers in Dublin were more aggressive speakers than the Scandinavians (Peters 1981:45).

Swedish and Newfoundland ingressives were studied by Clarke and Melchers (forthcoming) using the Göteborg Corpus of Swedish and the Newfoundland English taped corpus. In both the Swedish corpus and the Newfoundland corpus they found, once again, that women were using ingressives more than men.

More recent evidence for women's tendency to use IPS more than men came from Kobayashi's 2001 study in Norway, which is reviewed by Clarke and Melchers in support of their Newfoundland study. Stølen (1994, 1995) noted a similar tendency in Danish ingressives; Peters noted it in Ireland (Peters 1981) and Pitschmann (1987) observed it in some parts of Northern Germany. IPS is also used by some French women (Shorrocks 2003:378).

I was interested to see if Scottish women would be more frequent users of IPS than men. Initial discussions with people local to Morayshire suggested that at least in the North East region a surprise was in store, so it was something I decided to investigate.

### **The power dynamic between speakers and listeners**

A number of factors other than gender play a role in the use of IPS. In Peter's Vinalhaven and Norwegian studies, the males who were not normally IPS users did make use of the ingressive in some cases, and particularly when

faced with a workplace superior (either male or female), or when at some speaker disadvantage.

An interesting example given by Peters is of a Norwegian teenage boy, who used ingressive *Ja* three times when speaking to two teenage girls, one of whom was a very powerful participant in the conversation. A second example cited by Peters is of several Norwegian male students who used ingression only when speaking in English (their second language). He says this may have been a sign of their speaker disadvantage when not speaking their mother tongue, and their desire to take more of a passive role (Peters 1981:84).

In the Vinalhaven study, the sometimes sudden, sometimes gradual decrease in the use of ingressives in adolescent males seemed to go hand in hand with their decision or indecision about taking up marine employment, and the progression of their apprenticeships with the non-ingressive fishermen, learning the trade and seeking acceptance.

To make sense of these unusual findings, Peters had to consider the hierarchical structure and social codes of Vinalhaven. The men who worked on boats either for fishing or on the ferry were at the top of the social scale and commanded the most respect. This attitude endured despite the fact that, in reality, it was links to the mainland that were ensuring the survival of the island's economy. Peters linked the use of IPS to perceived social standing (Peters 1981:157).

Peters found a similar situation in Ireland. In Rosslaire and Wexford he mentions overhearing two men and one women using IPS. In each case the IPS user was in a position of inferiority, and was expressing defensiveness or respect (Peters 1981:43).

In Sweden Eklund's 2002 study recorded the use of ingressesives in situations where people were arranging travel bookings with either a talking computer or a real travel agent. Both men and women used ingressesives when speaking with the real travel agent. Clarke and Melchers (forthcoming) discuss the fact that 82% of ingressesives (68 out of 83) in Eklund's experiment were uttered by those in the client role (regardless of the gender of the agent).

In Clarke and Melchers' Newfoundland study some recordings of males contained fewer ingressesives than others. In recordings containing fewer ingressesives the men were playing the part of information providers, and were not in normal conversation with their wives and friends (Clarke and Melchers, forthcoming).

Other studies reveal that in predicting the use of IPS, the nature of the relationship between speakers may have greater importance than gender.

Peters mentions several instances of hearing males direct IPS towards women. These examples took place in conversations where the woman had the upper hand. In Ireland a male shop assistant used IPS speaking to a female supervisor (Peters, 1981:44), and a male railway official used IPS

when talking to an angry female customer (Peters, 1981:43). On a train in Norway, Peters heard an adolescent boy use IPS several times in conversation with two girls (one of whom Peters says was 'particularly vociferous') (Peters, 1981:85). Peters noted that Norwegian males who did not use ingressives in their native language would use them when speaking English, possibly signalling their disadvantage (Peters 1981:84).

Peters uses IPS examples from a television programme as further evidence. The programme involved a game with a Norwegian host, a Swedish referee, and a hostess placed in the role of a newly arrived immigrant (the theme of the programme was immigration). The audience of adolescents challenged the referee and the Norwegian man.

'At first the newcomers [the audience] used ingressives as their challenges were successfully met by the host and the Swede; once the teenagers gained the upper hand however, they and the hostess ceased to use ingressives and first the host and then the Swede began to use a great number of ingressives' (Peters 1981:97).

Working as a teacher in Vinalhaven, Peters noted that one boy who intended to become a fisherman continued to use ingressives (uncharacteristically), exclusively when speaking to the basketball coach, a subject that he took an interest in (Peters 1981:161). Peters also observed that on the very rare occasions when the older fishermen and ferry workers did use ingressives, they had either a perceived or real disadvantage. He mentions a man in his



early twenties who never used ingressives when speaking of his occupation or of the island, but who would use them when the conversation was about things he was less familiar with, particularly academic subjects (Peters 1981:171). Another senior at the school in Vinalhaven, described by Peters as the strongest non-ingressive user, did use IPS on one occasion during the academic year. This happened in the headmaster's office, when he was being warned about missing school (Peters 1981:153).

### **The contexts in which IPS is used**

Peters calls the pulmonic ingressive a 'paralinguistic sympathetic ingressive affirmative' because in most cases IPS is used by listeners, and generally it signals agreement with what speakers are saying. Peters describes use of IPS in these cases as 'essentially a listener's device used at moments of turn or potential turn in the conversation' (Peters 1981:01).

Shorrocks comments that the ingressive '*ja*' in Norwegian is used to convey sympathy, agreement or commiseration, and ingressive '*nei*' conveys surprise. In Denmark, Shorrocks writes that the meaning of an ingressive 'yes' is identical to its Norwegian counterpart, whereas ingressive 'no' can also express sympathy, and may be used by children when weakly rejecting a correct accusation (Shorrocks 2003: 377-378).

Pitschmann (1987) looked at the contexts in which IPS is employed in Scandinavia. He concluded that responses to a direct question would not be

ingressive if the IPS user really cared about what was asked. For example, IPS would never be used in response to the question 'will you marry me?' (Pitschmann 1987:154). According to Pitchman, the semantic difference between ingressive and egressive utterances concerns the amount of 'active involvement or commitment'. In egressive utterances the speaker displays active involvement, and in ingressive utterances the speaker expresses 'a causal, matter-of-fact air, and to some extent even passivity' (Pitschmann 1987:154).

The use of ingression to convey a casual manner is, according to Pitschmann, used in routine utterances in Icelandic, or in the English of Icelandic people. Pitschmann's example is of an Icelandic receptionist who used ingressives when saying 'please', 'thank you' and 'you're welcome'. He observed this on a number of occasions, and believed that IPS was used (subconsciously) to convey matter-of-fact courtesies, but also a desire to avoid 'active interpersonal communication' with hotel guests (Pitschmann 1987:155).

Another example cited by Pitschmann is of an Icelandic woman using IPS when saying to herself 'that poor guy', and 'I was so mad!' Here his belief was that the speaker was not expressing indifference but passivity, because she was talking absent mindedly to herself (Pitschmann 1987: 155-156).

Stølen (1994) and Clarke and Melchers (forthcoming) argue against Pitschmann's statement that IPS expresses indifference or a casual air.

Gasping is often associated with surprise, pain or fear, and IPS can therefore register strong emotion. Clarke and Melchers give two examples of longer emotionally charged phrases ('no, you don't give a shit' and 'oh my God it's fantastic'), which can be said ingressively in Swedish (Clarke and Melchers, forthcoming). Stølen quotes examples in Danish where the ingressive has been used during discussions about serious subjects (Stølen, 1994:674)

A number of articles point to further situations in which IPS is used (including Clarke and Melchers forthcoming, and Hill and Zepeda 1999). Counting under one's breath is one. It is likely that here IPS is a tool to avoid strain on lung capacity (Hill and Zepeda 1999:34).

Another common observation is that ingressives are employed as continuants during a conversation. This happens at a potential turning point (when the speaker will stop and the listener will become the speaker). An ingressive can be uttered by the listener to pass up on this opportunity and implore the speaker to continue. In discussing Swedish, Pitschmann says that this use of the ingressive can occur in conversations of either a casual or a serious nature, and that the listener's utterances of *ja* indicate agreement or that he or she is following, that he or she wants the speaker to continue, or is not intending to interrupt (Pitschmann 1987:154).

As pointed out by Clarke and Melchers (forthcoming), despite the journey of IPS throughout the North Atlantic and its appearance in many languages, the

same social and pragmatic constraints on how IPS can be used have accompanied it. The use of the IPS tokens as continuants seems to have been spread cross-linguistically as it is common wherever ingression is used. In the recording I made, transcribed in my introduction, this is the function of Female B's ingressive.

The use of IPS as a continuant (where we define continuant as a prompt by the listener to urge the speaker to continue), seems logical. This is because speaking with ingression is difficult on long utterances. The use of IPS by a listener (intentional or unintentional) is a clue to the speaker that they will not be interrupted, because it would be physically difficult for a listener to do so using ingressive airstream. The implication that an ingressive will not lead to more speech is apparent in one of Pitschmann's examples. He observed a student use IPS in response to a question asked of him when studying, indicating that he was focussed on something else and did not want to become a participant in a conversation (Pitschmann 1987:156).

Clarke and Melchers (forthcoming) have looked at the semantic and pragmatic overlap between ingressive and egressive discourse particles, and consider that ingressives have additional pragmatic meaning. In their opinion, IPS is used in a response only if the response is what the questioner would have assumed or expected. The ingressive response therefore means 'yes as you already know', 'yes, I admit it', 'yes, I agree with you' and so on (Clarke and Melchers, forthcoming).

Hill and Zepeda (1999) obtained some related findings in analysing IPS in Tohono O'odham. Although there were a number of contexts in which IPS was used, Hill and Zepeda stated that repetition was an important one. IPS was used during repetition when respondents were asked to name things on a flashcard. Sometimes the answer was given once egressively, and then repeated ingressively. This repetition also happened within free conversation (Hill and Zepeda 1999:20).

In the case of repetition, the speaker is giving information that is already known to the speaker, almost in a self-affirming way, perhaps stating 'yes, I confirm that what I just said is correct'. When collecting examples in Scotland, I was interested to see if IPS would be used in this context, and in the other ways that it is used overseas. I was also interested to find out if IPS would be used in any different ways in Scotland.

## **Cultural Considerations**

Theories on the possible origins of IPS have been discussed in other studies, and there has been analysis of various traditions in different cultures which make use of IPS.

I was not aware of any traditions in Scotland that made use of IPS, but Clarke and Melchers (forthcoming) citing Johnson (1962) and Gunnell (2001) claim it occurs in a tradition called 'skekling' or 'skakling'. Graham Shorrocks writes

that IPS has been reported in Shetland in a tradition called mummering (Shorrocks 2003:377), though I cannot say how common this is. Mummering or 'janneying' is a tradition more often seen in Newfoundland.

I found a description of mummering's origins and the form it has currently taken in Newfoundland on the internet. An extract is below.

"It's important to be completely covered," she explained.

"You look like you're dressed for Halloween," I said.

"Nope!" she replied in a voice that was definitely not my mother's. "I'm going Mummering!"

She showed me how to disguise my voice by sucking in my breath while talking. It was really neat. She said that a group of them would knock on a neighbour's door and call out in those strange voices. "Any Mummers allowed in?" they would ask.

V.G. St John's, Newfoundland

<http://www.msgr.ca/msgr-2/mummering3.htm>

Other traditions which use IPS are covered in the literature. The common link between them all is that they all involve the disguise of the voice, and in some

cases intimacy, (which is to an extent dictated by the nature of IPS, as it tends to be quiet).

Hill and Zepeda (1999) are amongst those who mention the use of IPS in the Hanuno'o language of southern Mindor in the Philippines. This kind of love-talk is called *Pahágot* (Pitschmann 1987:153). Here the young men use IPS to conceal their identity when talking to women they are attracted to (Hill and Zepeda 1999:35). The same use of IPS exists in an old-fashioned Swiss-German custom called *Fensterle*, where a boy speaks to a girl through her bedroom window hoping not to be recognised by her parents (Shorrocks 2003:376).

### **Historical and Geographical Considerations**

Due to the strong presence of IPS in Scandinavia, and the pattern of its appearance in North Atlantic countries, researchers of IPS have agreed that a language contact scenario is responsible for its spread. The regions in which IPS is common suggest lands once settled by Norsemen, or those settled by their descendents at a later date.

The principal regions or countries in which IPS has been reported are Sweden, Denmark and Norway, Scotland and Ireland, Iceland, Finland, Greenland, The Faroes, Newfoundland, Nova Scotia, Cape Breton Island, Maine and Prince Edward Island. Less well documented are cases of IPS in

Northern Germany, Switzerland and Austria (discussed by Pitschmann 1987) and Northern France. Clarke and Melchers mention a number of other areas where research has not been carried out, but recordings of examples are known to exist. These include Latvia and Estonia, Ottawa, and St Petersburg (Clarke and Melchers, forthcoming).

One very clear example of IPS was recorded in Northumbria, England in 1974. Whether IPS was once a feature of speech in England has been debated, but there is no research available (see Shorrocks 2003). IPS in Tohono O'odham (Hill and Zepeda 1999) is believed to be unrelated to the cases in the North Atlantic.

Part of the aim of this study is to gain a better understanding of where in Scotland IPS is common. I will analyse the results of my research considering the pattern of Norse settlement and later movement within Scotland.

## **Phonetics**

Air stream can be initiated by the lungs, the glottis and the velum, so air stream is said to be pulmonic, glottalic or velaric (Ladefoged 1975:113-119). During speech the air stream is manipulated by the various articulators in the vocal tract to create different speech sounds. Normally air is forced out of the lungs whilst speaking, and this is called egressive air stream. Ingressive air stream, where air is sucked inwards during speech, is much rarer.



Pitschmann cites the following phonetic characteristics of IPS:

- 1) The ingressive air-stream is, in the case of some speakers, preceded by a closure of the glottis before the air passes into the lungs.
- 2) There often appears to be a tightening of respiratory muscles including the diaphragm (this point has not been tested by machine.)
- 3) Although it does not affect articulation, the lower lip is often retracted during articulation and approaches or touches the upper teeth upon completion of the articulation (Pitschmann 1987:155).

Physical constraints mean that IPS is quiet, short, and usually restricted to small token words. Hill and Zepeda studied the use of IPS on word strings, and found that the longest utterance lasted 2.03 seconds, with the majority lasting 0.25 to 1.5 seconds (Hill and Zepeda 1999).

Hill and Zepeda's study of Tohono O'Odham found that IPS was a feature mainly used by women, mirroring the situation in the North Atlantic. Whilst men would only use IPS on '*heu'u*' or '*hau'u*' the equivalent of 'yes', women would use it more regularly, and on strings several words long. IPS was therefore seen as characteristic of women's speech (Hill and Zepeda 1999:17). The fact that studies in Scandinavia and North America found a similar bias lends weight to the theory that physiology at least partly explains

this tendency, as there is no historical evidence to suggest that IPS in Tohono O'odham is related to that in the North Atlantic.

In normal egressive speech the vibration of the vocal chords creates voicing. Vibration occurs as a result of the Bernoulli Effect of the air flow over the rounded lower surface of the vocal chords (Hill and Zepeda, 1999:38). Air pressure is responsible for the Bernoulli Effect taking place. It does so after a pressure drop of a minimum of 2cm H<sub>2</sub>O, with ranges from 130 to 180.88 (Catford 1977, cited by Hill and Zepeda 1999:36).

In IPS the air flow must create vibration in the vocal folds by passing over their upper surfaces, which are flat and more resistant, and prevent the Bernoulli Effect from taking place. To make the vocal folds vibrate during IPS a higher pressure difference (in the air either side of the vocal chords) is therefore needed than during egressive speech

During egressive speech air pressure is created because of the pressure of the ambient air. In IPS, air in the vocal tract becomes increasingly compressed as it fills with the intake of breath. The restricted space means that high pressures are impossible, and normal pressure cannot last for long periods.

Women have an advantage because their vocal chords are smaller and will vibrate more easily (meaning the air pressure difference necessary for a woman to produce voicing will be less than is necessary for a man to produce

it). The smaller and narrower female vocal tract also increases the speed of the air flow, which gives women a further advantage in producing IPS (Hill and Zepeda 1999:38).

Another phonetic consideration in analysing IPS is that some phonemes are harder to produce than others with an ingressive air flow. It was first reported by Abercrombie (1967) that some people in England say 'yes' with the use of ingressive airstream on the onset and the vowel, and normal egressive airstream for the final [s] (cited in Hill and Zepeda 1999:35).

As pointed out by Pitschmann, the alveolar fricative [s] is one of the more difficult phonemes to produce in IPS (Pitschmann 1987:158). In a word like 'aye', or 'yep' no such difficulty exists. Other phonemes listed by Pitschman (1987) which suffer 'little or no alteration to their phonetic quality' when articulated in IPS are the nasal [n], and the stops [t] [d] [k] [g] [p] and [b].

The fact that using IPS changes the sound of phonemes is, according to Pitschmann, a reason why most speakers avoid it on words other than 'aye', 'ja', or their equivalents in other languages. Pitschmann attributes the more common occurrence of IPS in Icelandic to 'the phonological configuration of a greater number of words and phrases' (Pitschmann 1987:160). This allows IPS to be used without the sounds of words differing so much that misunderstandings take place.

I think that the vowels and glides are also easy to produce in IPS, and that other fricatives and stops are hard to articulate in some positions. I am going to look at this after producing some spectrograms of IPS. It will also be interesting to find out whether recorded examples of IPS from Scotland (either in English or Gaelic) demonstrate the difficulty with certain phonemes.

Shorrocks (2003:386) has pointed out that the lower sonority of ingressive sounds may be one of the reasons why IPS is generally understood to be unobtrusive and polite, or as others have seen it, a less self-assertive form of speech. If we consider the speech of someone shouting, it is true that the most sonorous sounds, the vowels in particular, will be lengthened and emphasised. A giant could hardly boom [fɪ::i] [fɪ::ai] [fɪ::əʊ] [fɪ::ʌm] but would do a lot better with [fi:::] [faɪ:::] [fəʊ:::] [fʌm:::].

## ***METHODS***

Although I began with the intention of following the methods of a previous study on Ingression (such as the work done in Norway by Peters), for a number of reasons I decided against this approach.

First it was difficult to find examples of IPS in recorded material, either on radio or on television. This was because IPS tends to be used in informal situations, and (as I discovered) mostly by groups of people who are rarely

seen in the media. Furthermore, IPS is not used in Scotland with the same frequency as it is in Scandinavia, and is becoming a rarity.

Despite being unable to gather a large body of recorded examples, whenever I did hear IPS I noted the context in which it occurred, and my aunt recorded several video tapes worth of Gaelic programmes for me, which I scanned for examples.

In addition I spent two and a half days in the sound archives of the School of Scottish Studies in Edinburgh University. The archive contains recordings on 8mm reels dating back to the 1950s. The tapes must contain numerous examples, but because of time constraints I had to be selective. I limited my search to recordings of conversations in Gaelic and interviews from the Western Isles.

The majority of my findings came from a nationwide survey, an approach which I had not seen used in other studies on IPS. I wrote an email describing IPS as simply as possible and put together a short questionnaire asking people about whether they were familiar with it in the speech of local people. I asked respondents who recognised it further questions.

Initially I targeted libraries across Scotland (making sure that at least one library in every Council region was included). The initial response was poor, but the replies I received made it clear that the description of IPS and the questionnaire were easy to understand. Of those who had not heard IPS

locally, several mentioned being aware of it elsewhere, for example, in the speech of a parent who came from another region.

The number of responses to the questionnaire improved greatly after I contacted Ministers of the Church of Scotland. Many of those who replied gave detailed comments and expressed interest in the project. Although some geographical gaps remained (in areas where the population is less dense it was hard to get as many responses), I was able to fill some of these by contacting local Councillors or small local publishing houses. I also contacted local papers and the National Union of Farmers, but this proved unsuccessful.

The survey response ended up much better than I had anticipated, and by the time all of the questionnaires were returned (121), I had built a picture of the areas in Scotland in which IPS is likely to be heard, and of people's perception of it (when it may be used, for what purpose, and by whom). Some interesting trends and very clear tendencies were also highlighted by the responses.

A number of people heard about the project by word of mouth, including members of staff in the Gaelic programming department at BBC Scotland. I began to receive emails from people telling me about their experience of IPS, and offering to help any way they could.

Finally I decided to use my recorded examples to present a spectrogram analysis of IPS.

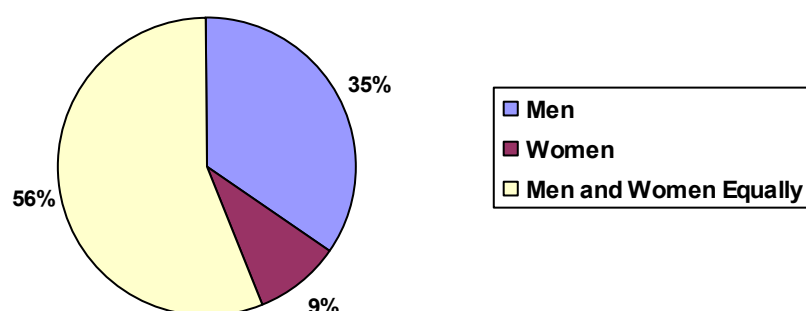
## ***PRESENTATION OF SURVEY RESULTS***

121 surveys were returned either by post or by email, representing all 32 council regions. 47 respondents had not heard IPS in their area and gave no further details. A further 11 respondents who had not heard IPS locally gave details of other areas where they had observed it. 63 respondents had heard IPS in their own area, and many of them gave details on other areas as well.

### **Use of IPS by Men and Women**

66 respondents had heard IPS in the speech of men and women, but some of these respondents said it was more common in one or the other. The surprising outcome was that of these 66 respondents 35% said it was more common in men, whilst only 9% said it was more common in women. This was unexpected because studies overseas (albeit with different research methods) had found IPS more commonly in women's speech. Furthermore, the impression that men were often IPS users was also expressed by many people whom I interviewed (who were not included in the survey).

**Main users of Pulmonic Ingressives by Gender**



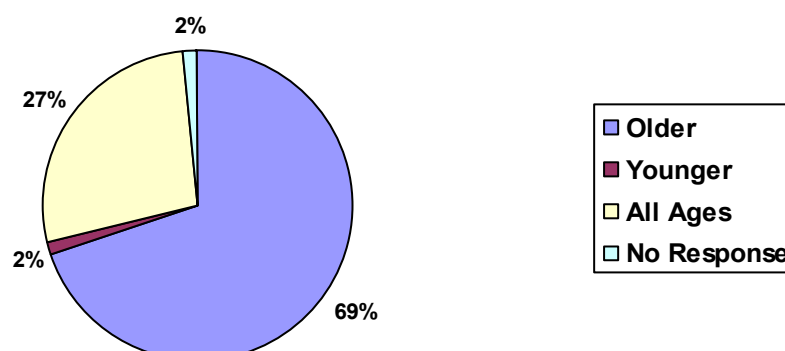
The responses in the survey revealed no geographical or rural/urban trend in those who believed that mainly men or mainly women used IPS. However, a large number of people in the Western Isles whom I interviewed by telephone, had the impression that women were the most likely to use IPS, and interviewees from the east coast mainland seemed to have the opposite opinion. The survey does not reflect this finding.

Interestingly, women were often associated with IPS if it was used on a string of words rather than just a brief interjection. Physically this is very difficult to do, but at one time it may have been more common than it is today. I have reports of individual women using IPS in sentences in Applecross on the west coast mainland, in Uist, and in Benbecula, though none are alive today.

### **Use of IPS by younger and older people**

On the question of whether older or younger people were more likely to use pulmonic ingression, there was a strong feeling that it was a feature of older people's speech. 66 respondents provided information on which age group they felt used IPS most commonly.

**Main users of Pulmonic Ingressives by Age**





## **Use of IPS by a Particular Group or Profession**

I asked the respondents who had heard IPS whether they felt it was more common in a particular group of people, or amongst those of a particular profession. Of 74 positive responses (commenting either on their own area or on other areas), 14 specifically mentioned those working in farming (described as 'country folk' 'agricultural workers' 'those of a farming background' and 'farming families') as common users of IPS. This response was backed up by other people to whom I spoke.

One respondent from Peterhead claimed that ingresses were used by those in agriculture, but less by those working in the fishing industry, and in fishing villages. If this proved to be true, it would be a very interesting parallel to the situation in Vinalhaven.

I contacted The National Museums of Scotland to see if historically there may have been a difference in the social standing or wealth of agricultural workers and fishing industry workers in the North East. I spoke to Dr Hugh Cheape, who advised that the farming and fishing communities were historically very separate and integrated very little, with intermarriage being very scarce. Dr Richard J Finlay also pointed out that in North East fishing communities during the twentieth century, those with a boat regarded themselves as property owners, and this may have had an impact on their own perception of social standing in the community (personal communication).

Whether this had an impact on the use of IPS in fishing communities would be speculation, but a more local study in Aberdeenshire might lead to some interesting findings. In the lowland white fishing communities, which includes the Buchan coast where Peterhead is situated, the fishing communities were particularly insular and run within families. 'Their term of well-meaning abuse for incompetence and handlessness amongst the men in sail was not the "landlubber" of popular imagination, but "farmer" (personal communication with the historian Gavin Sprott).

Apart from associating use of IPS to farming communities, eight respondents (from Fife, Renfrewshire, Highland, Falkirk, South Lanarkshire, East Lothian, Glasgow and Edinburgh), associated IPS with lower social class or manual workers and non professionals. Of these, four were based in major towns or cities, 3 in rural areas, and one did not specify.

Many people (either in the comments section or in the section on groups of people who might use ingressions) said that they associated IPS with elderly people, the older generation, people from the Highlands and Islands, and Gaelic speakers.

### **Context in which IPS is used**

Many people, both in the survey and in general discussion, drew my attention to a particular context in which ingressions was used. They commented on the fact that IPS was heard when discussing certain topics: something tragic, sad

or nostalgic. Others felt it was also used for gossiping (probably in a similar way to whispering). These comments are included in the appendix in full. They were made by respondents in all parts of Scotland, but particularly in the Western Isles.

Two people from South Uist, both ingressive users, told me that they would expect to hear IPS when discussing an illness or a death, which would be similar to some of the Danish examples collected by Stølen. Stølen points out that the use of IPS in these examples is not as a casual marker, but an expression of emotion (Stølen 1994:673-674). This is also observed in IPS use in the Faroes (personal communication with Edit Bugge, see below).

Another survey respondent from near Inverness, also a linguist, said the image of three old men nursing their pints in a pub and saying nothing but ingressive 'aye' several times, followed by a comment such as 'it's a hard life', would be a perfect caricature of a scene in his home town, and a typical use of IPS. My cousins in Elgin told me very much the same thing: that if I wanted to hear IPS I should sit near a table of old men in the pub.

I wondered about the fact that IPS was commonly associated with tragedy, fear or gossip, particularly in the Western Isles. A possible explanation for the use of IPS in talking of sad events could be its lower sonority. IPS has been described as less forceful, less intrusive, or less assertive (although Stølen 1994, argues against this). Using ingression when speaking about bad times may be some way of expressing respect for those concerned.

However, why use IPS in these circumstances, when whisper can serve the same purpose? The use of IPS for gossip suggests that speakers use it to conceal their discussion, perhaps because they feel it is improper or will cause trouble.

It is conceivable that IPS once functioned as a shield to protect superstitious speakers when discussing misfortune, in the way that today people 'knock on wood' or spit (as is the custom in Greece). Could IPS, used in some contexts, be a residue of an ancient superstition?

An example of IPS used in a context resembling gossip was given to me by Edit Bugge, a linguistics student in Norway who spent time living in the Faroe Islands where she says IPS can be heard on short sentences. In her example, a Faroese woman was asked 'What have you been doing?' (*Hvat gert tú?*) She replied 'Oh nothing!' (*Einki!*) using IPS, and implying that she had in fact been getting up to some kind of trouble.

I was given some further examples from Edit Bugge which demonstrate how IPS is used in the Faroes. These included short sentences and one word answers to questions. Common occurrences of IPS would be on 'ja' (yes), 'nei' (no) and 'veit ikki' (I don't know), but IPS is also heard there on phrases similar to 'oh my God' or 'Jesus', 'o Jussus', 'Harra Gud' 'o Jussus, nei', and in continuous counting. Edit felt that the use of ingression in the Faroes could strengthen emotional effect, as in 'eg sigi einki' (I'm saying nothing), when

used at end of an argument to imply 'there's no point me continuing, because nobody listens to my points'.

A couple of survey respondents and contacts gave me examples of the kinds of contexts in which they expected to hear IPS in Scotland. Here too, the use of IPS for emotional effect seemed to be apparent.

'It is very common with Gaelic speakers, particularly older women, to speak on the inhalation, often, I believe, when they are imparting bad news or news 'in confidence' e.g. 'oh it was terrible, terrible, so it was.'

'Many of my relatives from Skye (including my dad) use this speech sound regularly, particularly in Gaelic with a kind of resigned "*tha*", often accompanied by a disapproving shake of the head.'

Respondents in the North East and in the Borders said that IPS tended to be used by those with a good command of the Doric or Border dialects, who again tend to be older people. They felt that the ingressive was dying out as the use of local dialects declined.

"The use of this type of speech is something I remember from my youth growing up in the Scottish Borders. It was prevalent amongst those who were farmers or farm workers. It is something that my relatives in Elgin used frequently and to be honest I had forgotten this until filling out this questionnaire. I suspect that with the decline in Scots

languages and the growth of American English it is disappearing from the language.” (Cairneyhill, Fife)

“The use of this sound is primarily restricted to rural areas or those of rural origin. I regard it as a normal use of speech as my own mother used it as part of everyday speech, especially when using Scots or Lallans. I can’t think of any younger people in my area who use this so it may well be dying out along with Scots”. (Blairgowrie, Perth and Kinross).

Respondents felt IPS was used to interject politely into a conversation without making the speaker feel like you want to start talking yourself, to agree with the speaker politely without breaking their chain of thought, or to avoid saying anything at all. These uses for IPS seemed to be the most common throughout Scotland and are well documented in studies overseas.

“a way of avoiding conversation while at the same time filling a silence.” (Dunbar, E Lothian)

“a polite way of intersecting in a discussion without stopping the flow coming from whomever you are speaking to.” (Breadalbane, Perth and Kinross)

“usually short, one syllable words – used in exasperation situations or where emphasis is required or confirmation expected.” (Lewis, Western Isles)

“When used in the middle of a flow of conversation, the intent may be to prevent interruptions as the speaker does not need to pause for breath.” (Kilmarnock, E Ayrshire).

In two cases (one from Beaully and one from South Ayrshire) I was told of ingressive “aye” being used as a greeting.

“Used when unsure what to say, to be polite, or a form of greeting or acknowledgement of understanding” (Beaully, Highland).

### **Use of IPS on a variety of words or phrases**

I asked respondents to tell me if they had heard IPS on any words other than ‘aye’.

<b>Region</b>	<b>Words/Phrases</b>
Moray	Ken, weel, fit like, uh huh,
Highland	<i>All words, Gaelic question words such as ‘why’, ‘where’ etc.</i>
N Ayrshire	Wow! No! Wait! (When said in repeated form)

E Dunbartonshire	Eh?
Dumfries & Galloway	Yin for one, shhh! <i>The second syllable of some (normally monosyllabic words) pronounced as two syllables through the insertion of an epenthetic vowel.</i>
Aberdeenshire	Away you go, awa' ye go, here! (as a command), No, yes, ouch, feeche, well, or awa',
Aberdeen City	No! What? Wow!
Shetland	Yeah, yep, well
E Lothian	What, where, when, how, why
Borders	Counting numbers
Inverclyde	Ooh (disapproval or shock)
Lanark	Och
Western Isles	Yes, well well, well, just, oh well, right, <i>when calling someone's name (in Gaelic) e.g. A' Mhairi! the definite article 'A' is ingressive in some cases.</i>
Perth and Kinross	Uh huh, <i>other interjections to mean you are listening</i> , och, ach, eh, drapt, saise, weesh, awfy, mak, yugh.

### **Geographical mapping of IPS**

Finally I used the survey as a way of mapping how common IPS is in different parts of Scotland. I had 121 responses telling me whether IPS was common in each local area. I added to these responses the information people gave



me about other regions (where they had friends, parents, or where they had once lived). I then spoke to as many people as possible (who were not included in the survey) about whether they had heard IPS in their area. Most of these people were those who contacted me because they heard about the project by word of mouth, but some of them were participants at a fiddle school on Taransay. I also used recorded examples that I found (either on television or in the Scottish Sound Archives at Edinburgh University) as further evidence that ingression was heard in certain areas.

I managed to gather responses on 199 areas. In 75 areas people were unfamiliar with IPS, and in 124 areas people were familiar with it. The information came from a total of 144 separate sources.

The map confirmed my expectation that IPS is most common in the Aberdeenshire, Morayshire and Highland areas of the mainland, and in Orkney, Shetland and the Western Isles. A number of areas in the South of the country also seemed, unexpectedly, to be strongholds for IPS, and I was surprised to find some areas (notably Argyll), where respondents were unanimous in not having heard IPS locally. Whilst this could be a chance misrepresentation of the general perception in the area, I was intrigued to read in 'Vikings in Scotland' that 'its islands [the islands of Dalriada] display clear evidence for Scandinavian settlement, in the form of Norse farm-names and pagan graves, but not its mainland heart in Lorn and Mid-Argyll' (Graham-Campbell and Batey 1998:84). Whilst noting that Kintyre, which projects from mainland Argyll, was mentioned in Norse accounts as having been claimed

for Norway as a valuable island, Graham Cambell and Batey state that 'archaeological evidence for Scandinavian settlement is lacking' (Graham-Campbell and Batey 1998:92).

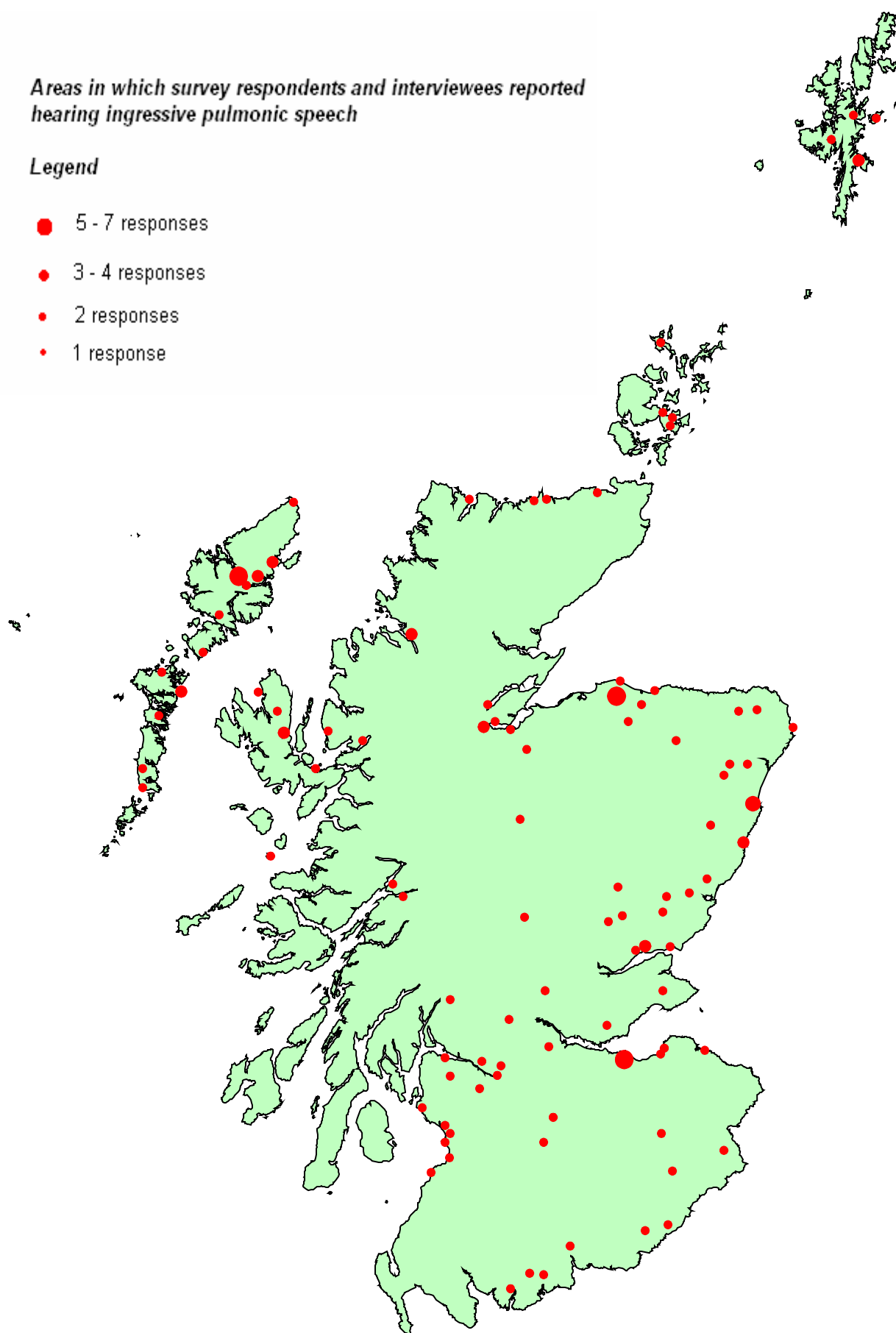
The larger cities and industrial areas of the south of Scotland showed a very mixed picture, which is what would be expected because of the large number of incomers to these areas.

The maps overleaf show the responses.

*Areas in which survey respondents and interviewees reported hearing ingressive pulmonic speech*

*Legend*

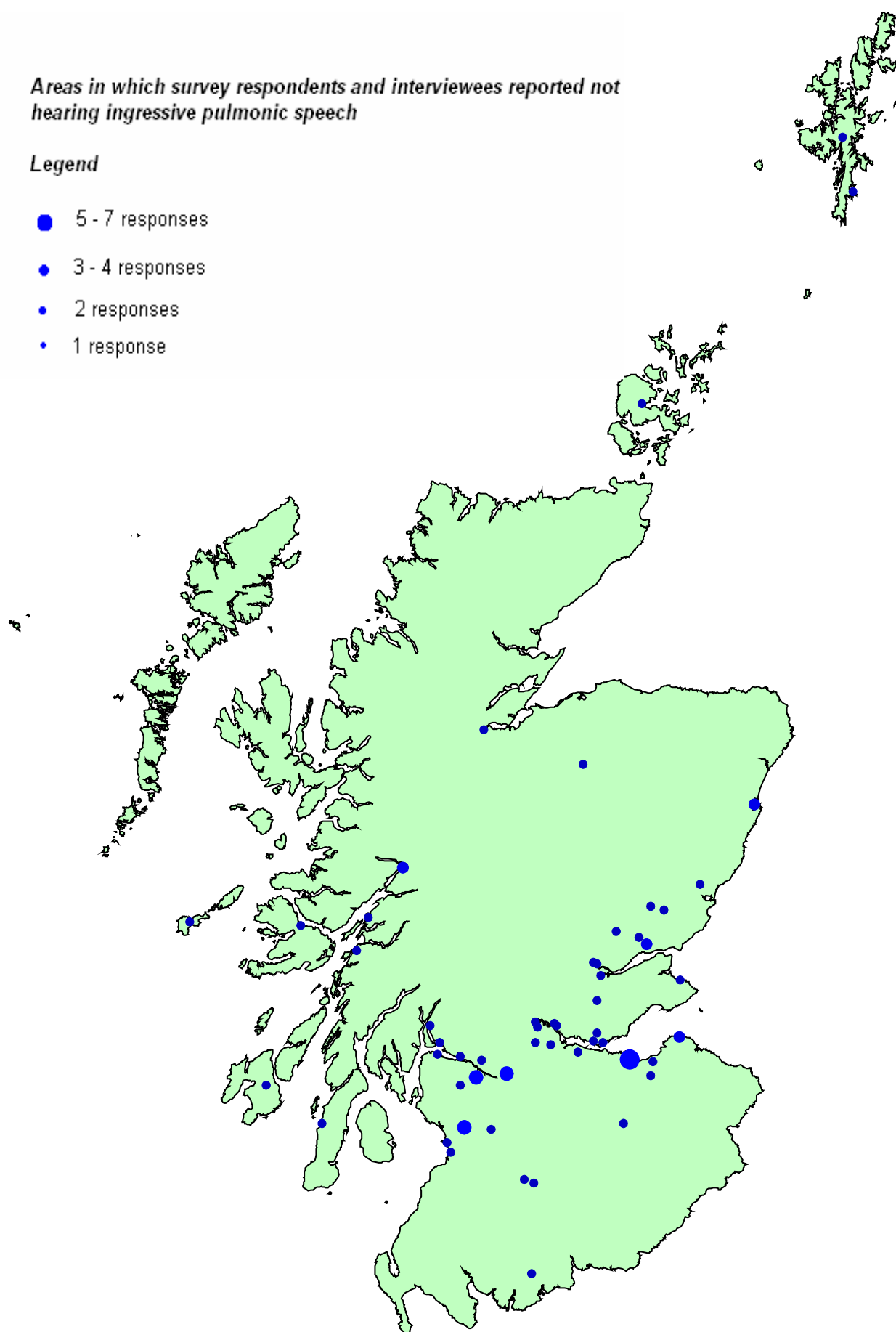
- 5 - 7 responses
- 3 - 4 responses
- 2 responses
- 1 response



*Areas in which survey respondents and interviewees reported not hearing ingressive pulmonic speech*

*Legend*

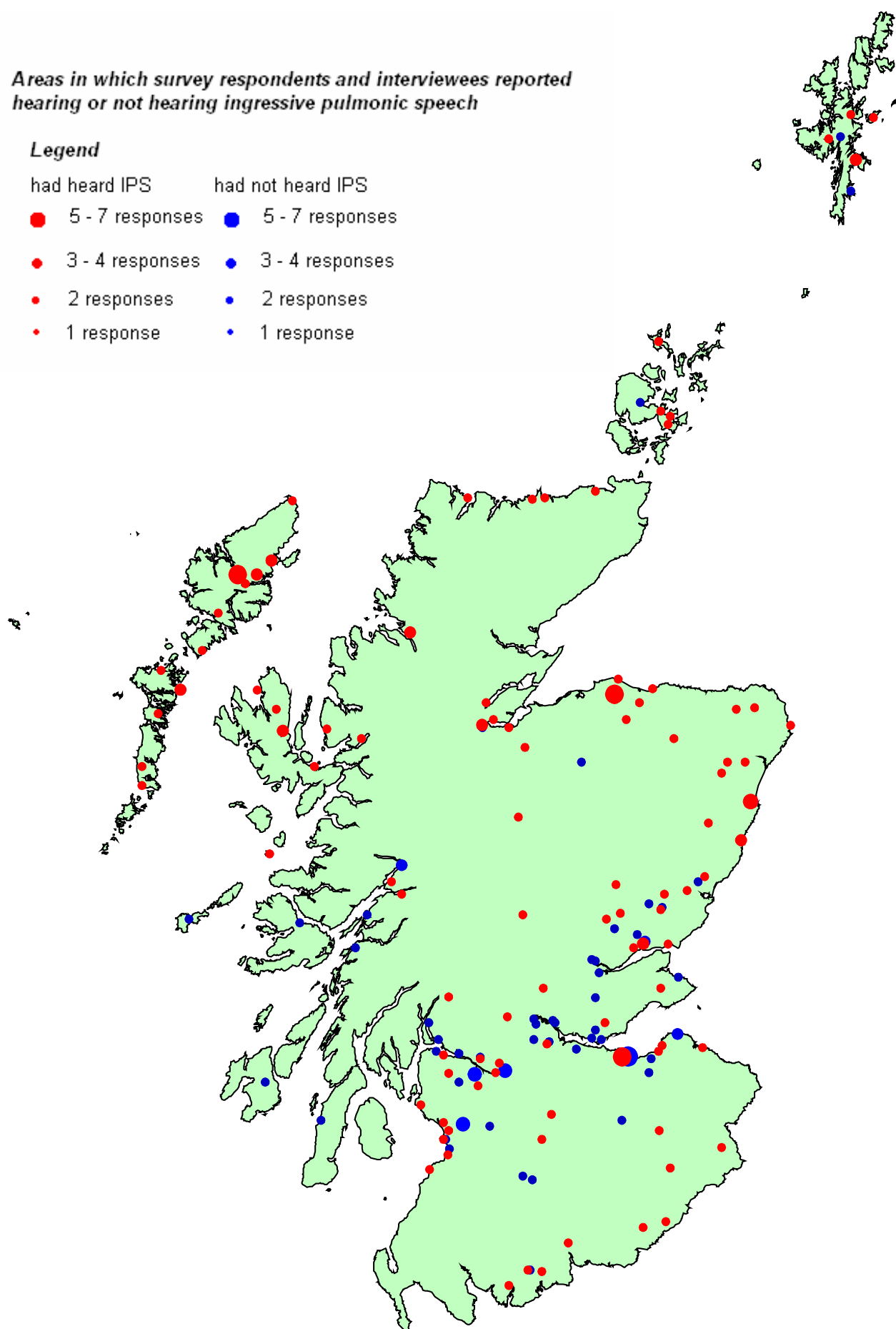
- 5 - 7 responses
- 3 - 4 responses
- 2 responses
- 1 response



*Areas in which survey respondents and interviewees reported hearing or not hearing ingressive pulmonic speech*

**Legend**

- |                   |                   |
|-------------------|-------------------|
| had heard IPS     | had not heard IPS |
| ● 5 - 7 responses | ● 5 - 7 responses |
| ● 3 - 4 responses | ● 3 - 4 responses |
| ● 2 responses     | ● 2 responses     |
| ● 1 response      | ● 1 response      |



One of the areas on the maps in which IPS appears to be very common was not subject to much Norse settlement in the Viking period, based on evidence from archaeology and place names (Graham-Campbell and Batey 1998:38 and Fitzhugh and Ward 2000:131).

The area concerned was the north east coast where I had first become acquainted with the phenomenon. Whilst the Norse lands did extend to Moray, most of their activities on the east side of the mainland were confined to Caithness, on the north side of the Moray Firth (Graham-Campbell and Batey 1998:38,68 and 257-258).

Whilst it is possible that IPS was brought into the Aberdeenshire and Morayshire areas by settlers from the Highlands, I think that a more important influence would have been the arrival of settlers from Scandinavia after the Royal Burghs were set up (in towns including Inverness, Forres, Aberdeen and Elgin). This began in the 12<sup>th</sup> century, when David I granted particular towns rights of manufacture and trade, making them also centres of government, with a link to the crown (Smout 1969:30). The influx of settlers was desired by the King because of their crafts and commercial skills. Flemings and Normans, Englishmen (or at least Angles) and Scandinavians were all amongst the incomers, who did not only go to the larger southern towns, but also to smaller places like Inverness and Dingwall (Smout 1969:32). Smout writes that 'if the structure of the older Scottish tongue is any guide, Angles and Scandinavians may have been the predominant elements among the immigrants', and further comments that these groups of foreign

settlers 'must have involved the common people in their unfamiliar language for so many of the ordinary economic transactions of life' (Smout 1969:32).

I had initially also been surprised to find that most people in the Scottish Borders recognised IPS as a local feature. However, archaeological and place name evidence in the area points to Norse and also Danish settlement here, following the northern expansion of the Danelaw (Graham-Campbell and Batey 1998:38).

It is possible then, that IPS was introduced into Scotland by Scandinavians over a number of centuries and in different circumstances. It would be interesting to see if this was reflected in differences in the use of IPS, or in the groups of people who make use of it. The research I have carried out points towards some possible differences. One such difference is the fact that IPS was often associated more closely with women in the Western Isles, but with men on the mainland, particularly on the East Coast and in the Scottish Borders. A further observation was that whenever a respondent confirmed hearing IPS on longer utterances, this was invariably in the speech of older women from the Western Isles or the West Coast mainland. A more localised study, based perhaps in Aberdeenshire and on one of the Western Isles, may be able to give further weight to these initial observations.

An outcome I found surprising was that respondents from Orkney and Shetland, unlike those in the Western Isles, were not unanimous in their familiarity with IPS. As these were the Scottish islands most heavily settled by

Norsemen, I would have expected the picture to be clearer. Whilst several independent sources have confirmed that IPS is definitely heard in Shetland, I can only speculate as to why it is not as well recognised as in the Western Isles. One respondent from Shetland, who replied stating that she had not ever heard IPS, commented that there were very few local people remaining in her part of the Islands, which could be one reason for negative responses in these areas.

## ***RECORDED EXAMPLES***

### **Sound Archive Recordings**

Because of time constraints, I restricted my search for recordings in the University of Edinburgh's School of Scottish Studies to tapes from North or South Uist and from Harris. This was because a number of people whom I had spoken to on the phone who used IPS themselves came from Uist, and Harris is the neighbouring island.

Almost all of the recordings I heard were in Scottish Gaelic, so I had to familiarise myself with the intonation and sounds of the language enough to follow along with the transcriptions and understand a few of the small phrases I was most interested in.

Whilst I was disappointed not to find more examples in Edinburgh, the recordings confirmed that IPS occurred on a variety of words.



I disregarded several cases where I felt ingression may have been used by the speakers because the recording was not clear enough to pick up such small, quiet responses. In these cases I found it hard to judge whether the speaker was using IPS or just inhaling loudly. Aside from the speech on the recordings, I heard ticking mantelpiece clocks and violently howling winds, all of which added to the atmosphere they captured but made identifying IPS tricky. The recordings reminded me of a joke that a man from Uist told me – that the Hebrideans had learnt to use IPS because they often had to talk in the wind! In the appendix I have listed all of the tapes that I listened to.

Clear examples from the sound archives (with the words spoken ingressively underlined) were as follows. In the first example the ingressive ‘aye’ is actually uttered by the interviewer.

*Male speaker: ‘Nuair a bha bhean a’ gabhail fadachd nach robh Alasdair a’ tigh’nn a stigh, dh’eirichil i fhéin s’ chaidh I mach’.*

*Male listener: ‘aye’.*

*Male speaker: ‘Bha Alasdair ‘na shìneadh ann a shin, ‘s cha b’urrainn dha carachadh’.*

Translation:

Male speaker: When his wife started worrying why Alistair wasn't coming in, she herself got up and went out.

Male listener: aye

Male speaker: Alistair was stretched out there and he couldn't move.

This example (SA1958/27) was a recording of two male speakers in 1958 in North Uist. It appears to be a very typical signal that the listener is attending to what the speaker is saying, but does not want to interrupt at this point. I noticed that this happened at a point of tension in the story, when the wife was worried about what had happened to Alistair. This could be considered a use of IPS in the context mentioned by some respondents in the survey (when discussing something sad, worrying, or tragic).

In the next example (on the same tape, also from North Uist), a male interviewer was discussing a story with a female informant. She said 'seadh, seadh', in confirmation of what he asks, and meaning 'that's how it is/was'. She uses marked ingression on the repetition.

On tape SA 1957/77, recorded in North Uist, there are some examples of IPS used in waulking songs (listen to the first song, *Sìod Mo Liannan Seo Mo Siannan - Hoiriann ó hi-rì ho-ró*). This is surely in order to avoid disrupting the

rhythm whilst pausing for breath. During speech on side B of this tape there is also an example of an ingressive “*tha*” (meaning ‘it is/yes’) during conversation.

Further examples are heard on a tape from Harris (SA1978/86), recorded in 1978. During an interview with a female informant and a male interviewer, the female produces ingressive ‘aye’ several times whilst the male is speaking. A male interviewee on the same tape may produce several (much quieter) ingressives, but they are not clear enough to be counted as definite examples.

Another interesting example, though not one clear enough to be a definite case, is on tape 1957/75/76. This was recorded in Bayhead, North Uist in 1957. A female informant tells a story to a male interviewer in Gaelic, but at the end of the story she switches to English and says “that’s it now” in a manner that sounds like IPS. It is unclear which words, or indeed if all of them, are ingressive, but there is a very audible release of breath after the end of the phrase, suggesting that the speaker was breathing in whilst talking.

### **Examples from Television**

Gaelic programmes broadcast over the summer were recorded for me. They included two episodes of *Comhla Rinn*, one episode of *Fianuis Shùil*, one episode of *Fearann is Fuaran*, three episodes of *Iomall nan Tonn* and three episodes of *Ceol aig a Chaisteal*. Examples were found in the first two, which

contained unscripted interviews. Two of the other programmes were documentaries with scripted voiceovers which did not contain IPS, and the third was a traditional music show with no dialogue.

One example was heard on *Comhla Rinn*, a Gaelic music and talk show. In this episode a male poet was being interviewed by the host. On a number of occasions the man uses a possible inaudible ingressive. This was something observed in Norwegian males by Peters who described seeing “silent paralinguistic gestures that carried the same facial, mouth and torso movements that the women ingressive users exhibited, but the ingressive was not realized audibly’ (Peters 1981:81). Nevertheless, the man pronounces one very audible example, an ingressive ‘aye’. This is uttered at the end of his response to a question, possibly signalling that he was ready for the next topic to discuss, or affirming what he had just said.

The second television example was found in the programme *Fianuis Shùil*, a recent series that looked at how the introduction of different technology affected the Highlands and Islands. This episode looked at the arrival of television in the Western Isles, and included old footage from the 1950s. In a piece of old footage a male interviewer, probably in North Uist, asked a lady about television on the island. The interview was conducted in English, and the discussion went as follows (with the IPS underlined).

Interviewer: “it’s a bit complicated” (he says this whilst lifting the TV set he is carrying and nodding towards it.)

Lady: “yes, oh yes, it’s good right enough”

On the film you see the woman’s shoulders rising very clearly as she says ‘oh yes’, in another example of ingressive use in repetition. The woman uses IPS clearly throughout the utterance, and does not exhale till after the pronunciation of [s].

I am only aware of two possible cases where IPS has been used deliberately in television, radio or theatre shows. In both cases they were comedy shows, and ingression was used for comic effect.

My Uncle remembered IPS being used by a comedy team called ‘Scotland the What’, who performed sketches in Doric, a dialect of Scots spoken in Aberdeenshire. Interestingly, he said that it was used in a sketch about local farmers. Although the shows were filmed for television and recorded for radio, I have been unable to get a copy of this sketch from the archives to verify this.

More recently, a Gaelic television comedy called ‘*Air Ais Air An Ran Dan*’ also made use of IPS for comic effect. The producer of the show, Rebecca MacLennan told me she used IPS because she felt it was a common part of island life.

## ***IPS IN LONGER UTTERANCES***

I was hoping to find either recorded examples of IPS used on longer utterances, or a living informant who would be able to demonstrate it. However, it seems to exist only in the most remote parts of Scotland (if at all these days). Natural speech of this kind was not heard in any of the recordings I found.

In the course of my research I heard of 3 speakers who would use ingression in sentences or longer dialogues and not just in interjections. They lived in North Uist, in a village in Benbecula, and in Applecross on the mainland. I was unable to find any speakers alive today, despite an article about my research by Ruairidh Macilleathain appearing on July 1<sup>st</sup> 2005 in his column '*Am perusa*' in the Inverness Courier, which is sold all over the Highlands and Islands. The article (in its original version and in translation) is included as an appendix.

Despite not hearing IPS in sentences, some of the contexts in which IPS was used mirrored those heard by Hill and Zepeda (1999), in sentences in Tohono O'odham. Hill and Zepeda observed that IPS was often used when giving old information (either when directly repeating oneself or when saying something the listener was known to be aware of already).

Many cases in which I heard IPS used on interjections were during cases of repetition. I heard one speaker say '*seadh, seadh*', one say '*yes, oh yes*' and many more say '*aye, aye*', and in most cases the first time the word was said

it was egressive, and the second time it was ingressive. People who telephoned me to talk about their ideas said this was something they had often heard.

## ***PHONETICS***

I made recordings of ingressive utterances of 'aye' to perform spectral and waveform analyses. I used a male and a female informant, both frequent users of IPS from Elgin. A number of examples were uttered in conversation prior to the informants knowing what aspect of speech I was studying, but these ceased when the microphone was close. After obtaining some spontaneous examples I asked them to use IPS consciously. This did not pose any difficulty as they were aware of it and were able to reproduce it. One of them commented that they used IPS so frequently it would be physically hard for them to reproduce it incorrectly, or in any way other than they usually did. The examples resembled each other closely on the spectrograms.

I have included five spectrograms in the following pages. They show one egressive and one ingressive utterance of 'aye' from both the male and the female speaker, and one example of a short sentence 'aye, aye it was'na bad' uttered by the female speaker, in which only the first occurrence of 'aye' is ingressive.

The ingressive utterances were not always shorter than the egressive utterances. Whilst this might seem surprising given that IPS cannot be

maintained for long periods, I think when dealing with one word tokens such as 'aye' the speaker may vary the speed of his or her utterance depending on the situation. In the recordings I made ingressesives were sometimes said alone, or they were given in reply to a question, or in some cases they were given as a repetition of an initial egressive utterance of 'aye'.

In the male ingressive example the speaker was not prompted by a question, but was simply filling a silence, a situation where we might expect the utterance to continue for longer than in conversation. His egressive example on the other hand, was within the following stream of similar tokens, (the underlined token was ingressive): 'aye, yep, yep, aye, know what you mean'. The female examples were both one word responses to questions. Other examples from her were much shorter (215 m/s), and none were over 400m/s. An example of an ingressive 'aye', recorded during spontaneous conversation and uttered by the female, lasted 290m/s.

male/female	speed of ingressive 'aye'	speed of egressive 'aye'
male	400m/s	360m/s
female	340m/s	390m/s

I looked at the [α] part of the waveform for [αɪ], and in both the male and female examples I tried to see if there was any variation in vocal fold vibration when pronouncing the same word with an ingressive and egressive air stream. I expected that there would be for two reasons. Firstly, I felt that in the



examples I had heard, IPS seemed to be higher in pitch than egressive speech (which would mean more frequent vibration of the vocal folds), and secondly because of Hill and Zepeda's account of airstream mechanics in IPS and normal egressive speech (Hill and Zepeda, 1999:38).

The waveform for both male and female egressive utterances had peaks in air pressure (corresponding to vocal fold vibration) at regular intervals. The male utterance had a frequency of 125Hz, and that of the female had a frequency of 181.82Hz. As predicted, during IPS there was a difference in the waveform, with irregular peaks appearing between 222.22Hz and 142.86Hz in the male and 444.44Hz and 285.71Hz in the female. The fact that frequency during the male ingressive example was occasionally higher than a woman's egressive speech may be one reason why IPS has sometimes been regarded as an effeminate trait, as was reported for some parts of Germany (Pitschmann 1987:154).

The formants in the spectrograms of egressive tokens are easy to make out. We see formant 1 fall in frequency during the change from [α] to [ɪ], and formant 2 rise during the same change in both cases. A third formant is visible at a higher frequency throughout the diphthong, but this is clearest in the male examples. In both the male and female examples the clarity of the formant structure is blurred during IPS by the presence of much more random energy called noise. This random energy is normally associated with fricatives such as [ʃ] or [f], which are also those hardest to produce clearly using IPS. During IPS, noise appears at high and low frequencies.

[s] is thought to be a difficult phoneme to produce in IPS (Pitschmann 1987:158). Other fricatives seem equally hard to produce using IPS. To say 'yes' is no harder than to say 'yesh', 'yez' or 'yeff'. However, a Gaelic example that I found suggested that users of IPS do not avoid all fricatives, or at least not in all positions. The example was a strongly ingressive 'seadh', pronounced with an initial [ʃ]. This example showed that IPS users can pronounce at least some fricatives in certain circumstances.

A word such as '*seadh*' which has an initial fricative, may be easier for a user of IPS to pronounce than one such as 'yes', where the fricative is final. Based only on my own observations, I think that when a fricative is in the onset of a syllable it can be pronounced more easily using IPS than when lying in coda position, although I should say that with practice, I began to find it easier to pronounce fricatives in coda position too, particularly in the case of [ɪʒ].

I used the following words to practice, and I provide them here so that you can try saying them with IPS and see if you notice whether fricatives in onsets are easier to pronounce clearly than those in codas. In the words on the left you have to avoid exhaling between the syllables.

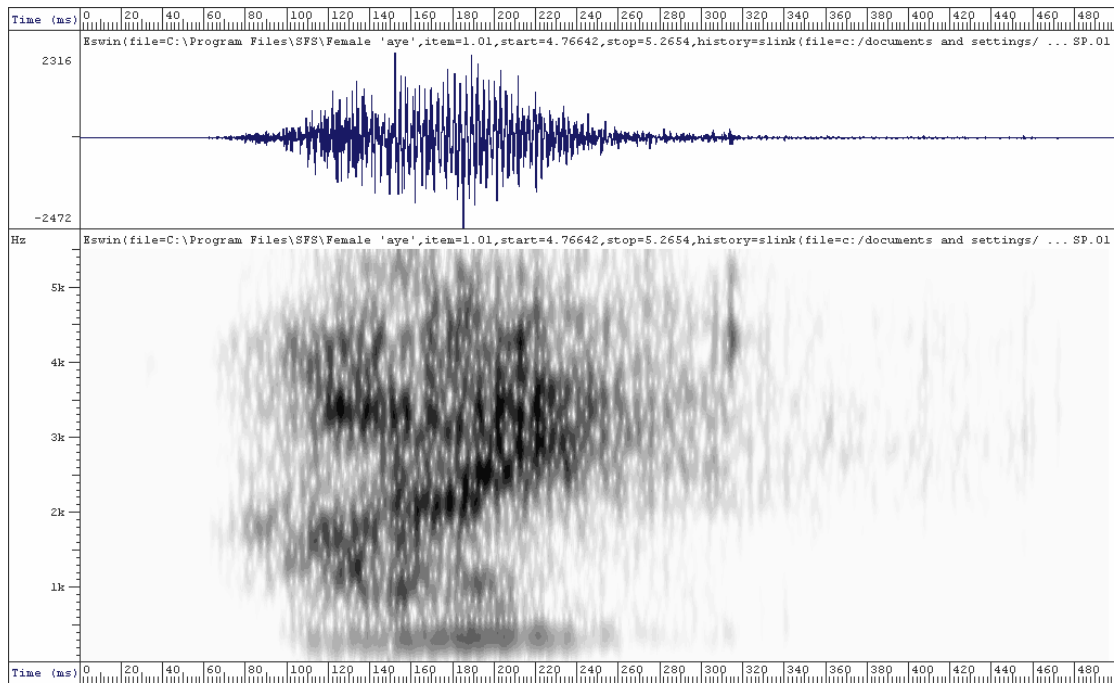
Onsets	Codas
Cecil	yes
P.C.	piece
<i>Chou-fleur</i> (cauliflower)	hoof
Washer	gosh
<i>Zanzara</i> (mosquito)	guns

I also tried the following combinations of words to show that the fricatives in word final position could be pronounced easily if they acted as onsets for adjacent words:

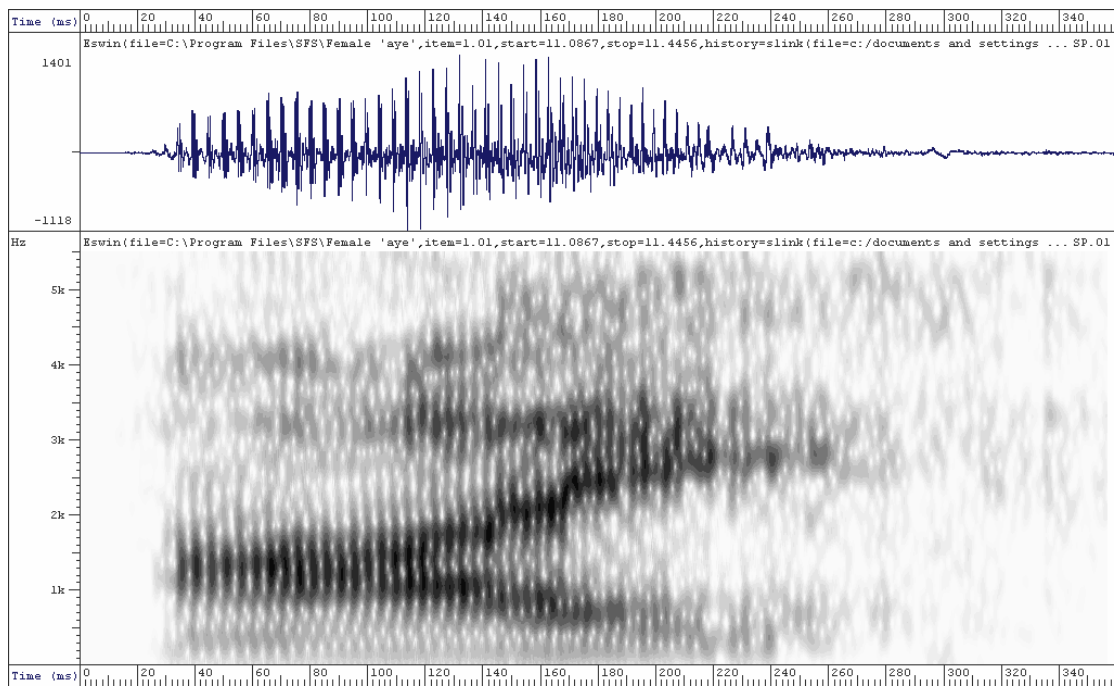
yes ill      pea seed      roof learn      wash earl      guns arms

After trying out some more words I felt that the same was true of stops such as [b] [p] [k] [g] [t] and [d].

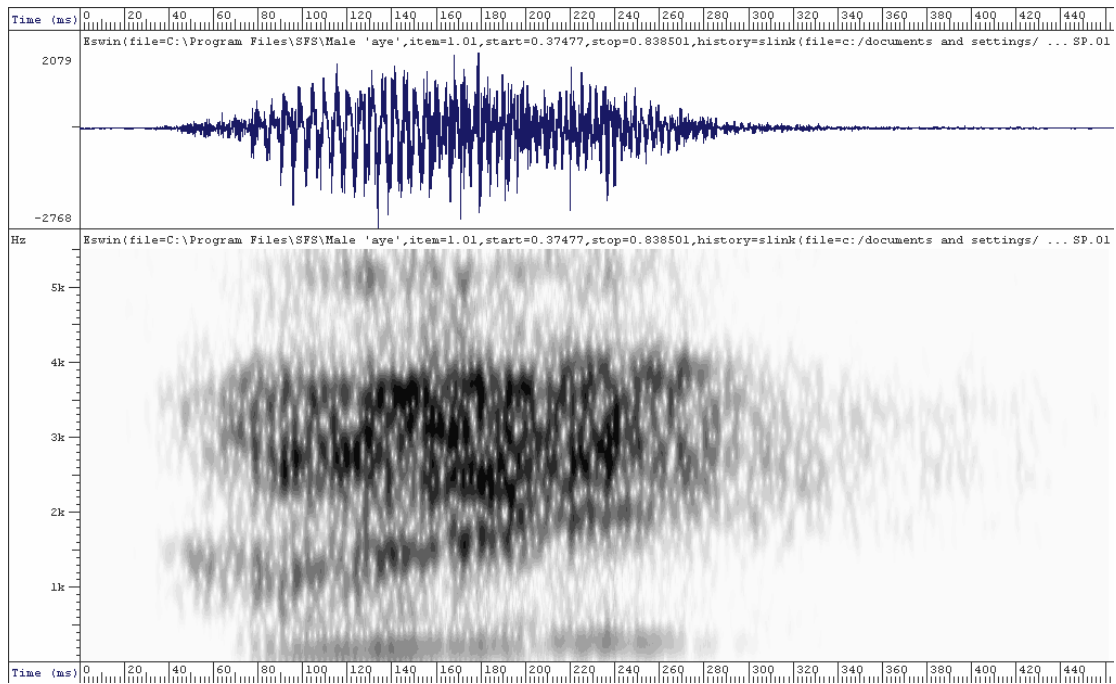
If fricatives and stops are easier to pronounce in onsets than in codas when using IPS, the question that arises is why this is so? It may be that a rise in sonority (which happens in onsets but not in codas) is necessary for them to be articulated. This would involve a change from high to low intra-oral air pressure.



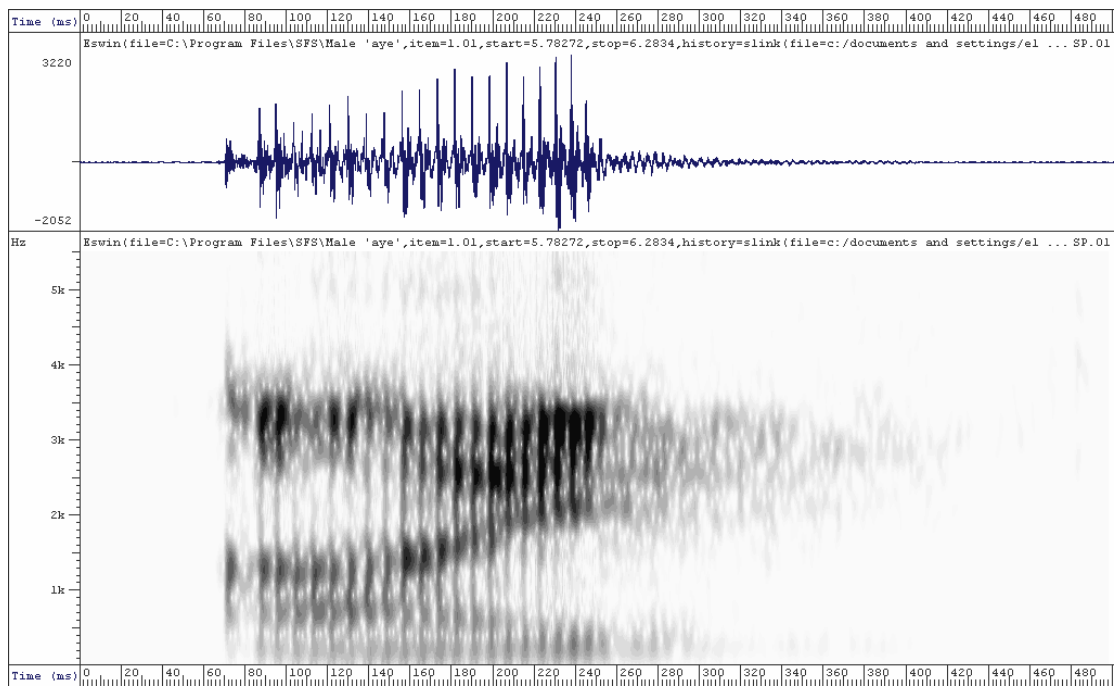
Female IPS 'aye'



Female egressive 'aye'

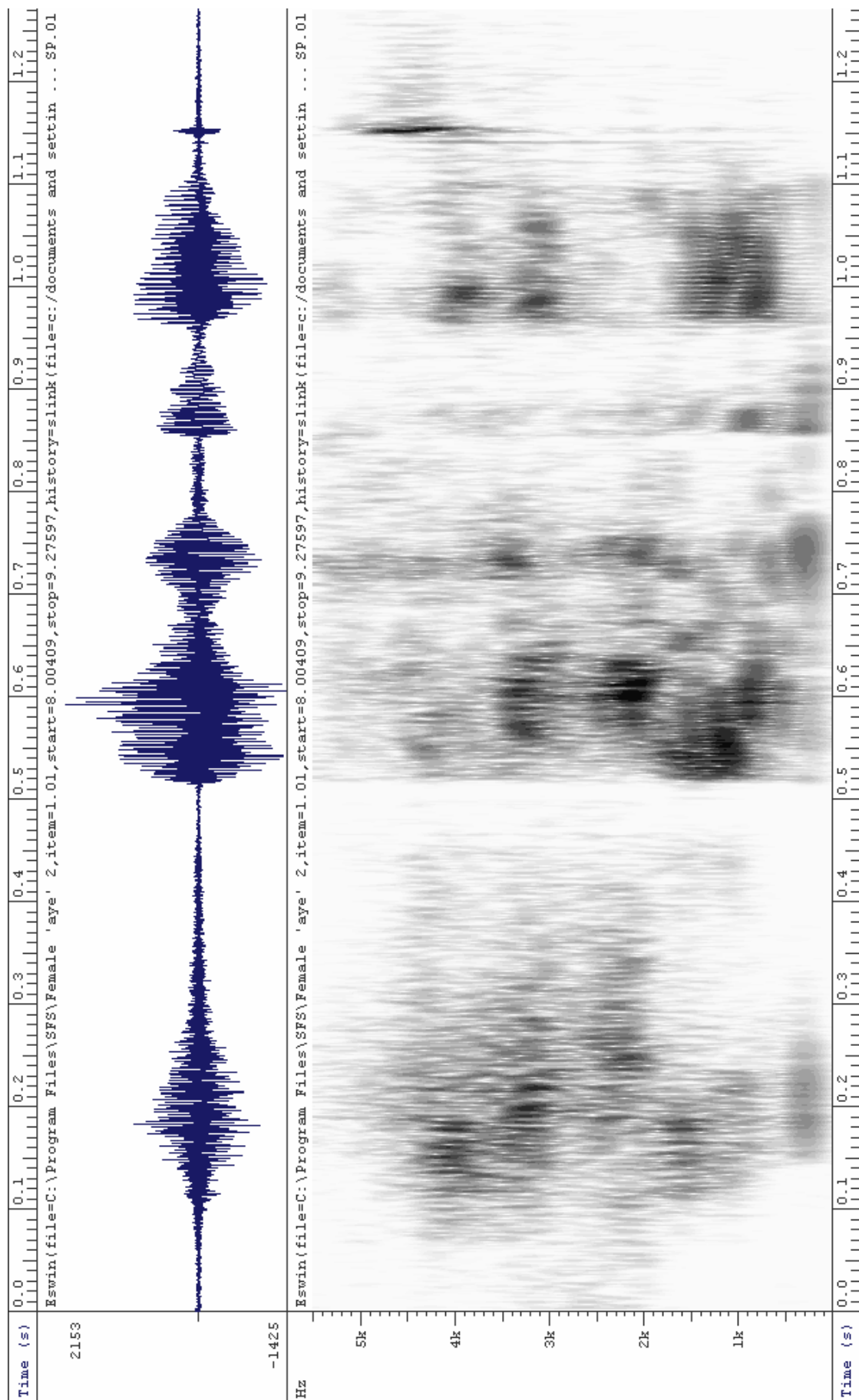


Male IPS 'aye'



Male egressive 'aye'

Overleaf: female 'aye, aye it wasn't a bad'



## ***CONCLUSIONS AND FURTHER RESEARCH***

A common question that many MA linguistics students are asked when they tell people what they are studying, or what their theses are about, is “why?” Several people have asked me this question when I told them I was studying IPS.

I could have cited reasons given by Peters (1981:09) who felt the matter was worthy of investigation in order to understand male and female linguistic interaction, the study of English as a foreign language, turn taking and power relations. Whilst I do not disagree with Peters, my reason for wanting to study IPS was less academically motivated.

I grew up in a house filled to the rafters with antique porcelain. I was occasionally allowed to hold a teacup or a creamer, and when I did I would imagine all of the changes in the world that the object had ‘witnessed’ and wish that it could speak. I think it was for similar reasons that I was so impressed with IPS. It has survived many centuries of change, had many masters, gone on long gruelling voyages, and yet remained almost unnoticed. Surely, IPS has a fascinating story to tell.

When I discovered that no one had conducted research on the English and Gaelic varieties of IPS found in Scotland, I hoped that my work would be a first step in the telling of one particular chapter of the story of IPS.

In the beginning, I set out to discover more about the way in which IPS is used in Scotland, who uses it, for what purpose, and whereabouts it is most likely to be heard. Whilst I intended to follow the examples set by a number of studies on IPS in other countries, I eventually relied principally on a different method of data collection.

I was able to record or find recordings of IPS in Gaelic and Scots, but they were not numerous enough to build up a large corpus of examples. Those I collected showed varied use of IPS on a number of words, and whilst I included an analysis of them in this thesis, I concentrated my efforts on interviewing those familiar with IPS by telephone, and in undertaking a survey. This was well received and had a very successful response. The methods I used revealed not only the geographical areas in which IPS is likely to be used, but also provided an interesting insight into people's perception of IPS, what they thought it meant, and which groups of people they associated it with. This was an avenue for further research suggested by Stølen (1994:676).

Despite the different methods I used, my results showed many parallels with work carried out on IPS in other countries in the North Atlantic, and even with the study of IPS in Tohono O'odham, which is not believed to be a related case.

I discovered variation within Scotland with regard to which groups of people were associated with IPS, and in some regions trends differed from the



majority of findings overseas. On the north east coast and in the Borders region of Scotland, IPS was generally associated (unexpectedly) with male speech. As a follow up to this finding, it would be interesting to listen to an archive of recorded informal conversation from the Aberdeenshire, Morayshire or Border regions to see if this perception was borne out.

A more localised study of IPS in Aberdeenshire may shed some light on the intriguing perception of one Peterhead respondent, who observed that IPS was commonly used by those working in agriculture, but not those in fishing communities. This was an opinion that mirrored the situation in Vinalhaven, Maine, in a study undertaken by Peters (1981).

It would be interesting to look further at migration patterns and social history in Scotland to try and ascertain what is responsible for the variation in IPS use across the country.

Further work in Scotland would have to be carried out as soon as possible, because IPS is very likely to be vanishing. Unfortunately, the use of IPS on longer utterances (which several informants mentioned hearing in different villages in the Western Isles or on the west coast mainland at one time), may already be extinct.

## **REFERENCES**

Clarke, Sandra and Melchers, Gunnel. (Forthcoming), *Ingressive Particles across Borders: Gender and Discourse Parallels across the North Atlantic*. To appear in the Proceedings of the Methods XI Conference (Joensuu, Finland, August 2002), John Benjamins.

Eklund, Robert. 2002, *Ingressive Speech as an Indication that Humans are Talking to Humans (and not to Machines)*. Paper presented at the Seventh International Conference on Spoken Language Processing, Denver, Colorado.

Fitzhugh, William W and Ward, Elizabeth I. 2000, *VIKINGS The North Atlantic Saga*, Smithsonian Institution Press.

Graham-Campbell, James and Batey, Colleen E. 1998. *Viking Scotland*, Edinburgh University Press.

Hill, Jane H and Zepeda Ofelia. 1999. *Language, Gender, and Biology: Pulmonic Ingressive Airstream in Women's Speech In Tohono O'odham*, in *Southwest Journal of Linguistics*, Linguistic Association of the Southwest.

Ladefoged, Peter. 1975. *A Course in Phonetics*. Harcourt College Publishers.

Lamb, William. 2003, *Scottish Gaelic*, Lincom Europa.

Peters, Francis Joseph. 1981, *The Paralinguistic Sympathetic Ingressive Affirmative in English and the Scandinavian Languages*, unpublished Doctoral thesis, New York University.

Pitschmann, Louis A. 1987. *The Linguistic Use of the Ingressive Air-Stream in German and the Scandinavian Languages* in *General Linguistics*, vol 27 no. 3.

Shorrocks Graham, 2003, *Pulmonic Ingressive Speech in Newfoundland English: A Case of Irish-English Influence?* in *The Celtic Englishes III*, Universitätsverlag WINTER Heidelberg.

Smout, T.C. 1969, *A History of the Scottish People 1560-1830*, Collins.

Stølen, Marianne. 1994, *Gender-related use of the ingressive Ja in informal conversation among native speakers of Danish*, in *Cultural Performances, Proceedings of the Third Berkley Women and Language Conference April 1994*, Berkley Women and Language Group.

## **Television**

*Ceol aig a Chaisteal*, a Kenyon Communications Production for Grampian Television.

*Comhla Rinn*, a Kenyon Communications Production for Grampian Television.

*Fearann is Fuaran*, a Kenyon Communications Production for Grampian Television.

*Fianuis Shùil*, an MNE Television production for Scottish Television.

*Iomall nan Tonn*, An SMG Television production for Grampian Television.

*Air Ais Air An Ran Dan*, A BBC Scotland production.

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**Prof Juhani Klemola** – University of Tampere, Finland

**Dr Will Lamb** – Lews Castle College Benbecula Campus

**Dr Caithlin Macaulay** – School of Scottish Studies, Edinburgh University

**Ruairidh Macilleathain** – Journalist

**Fearchar MacIlI Fhinnein** – BBC Craoladh nan Gaidheal

**Ian MacKinnon** – Journalist

**Alasdair Maclean** – BBC Craoladh nan Gaidheal

**Rebecca MacLennan** – Gaelic Comedy Producer

**Donald Macleod** – BBC Craoladh nan Gaidheal

**Prof Roibeard Ó Maolalaigh** - Glasgow University Celtic Department

**Dr Gunnel Melchers** – Department of English, Stockholm University

**Jonathan Robinson** – Curator of English Accents & Dialects, British Library

**Prof Dr. Annette Sabban** – Universität Hildesheim

**Dr Graham Shorrocks** – Memorial University of Newfoundland

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I am very grateful to everyone who took the time to respond to the survey.

The respondents included Church of Scotland Ministers, local librarians, acquaintances, Local Councillors and one representative of the National Farmers Union of Scotland.

Thank you also to everyone who was at Taransay in July, and to other friends who spoke to me about ingressive speech.

## ***APPENDICES INDEX***

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## ***Appendix 1***

A sample of the survey sent out is on page 74. This survey was sent to churches across Scotland, and it was adapted for use with other organisations. The information requested remained the same. Respondents could complete it online, and then had the choice of emailing or posting it.

The survey was sent as an attachment with the following email, which described what it was about. Square brackets enclose areas where the email was adapted for different recipients.

EMAIL:	My Address
To [recipient's name or position],	
I am a postgraduate student of linguistics at University College London, and I am contacting you because [as a Church Minister/Local Councillor etc], I felt you might be able to help me with a piece of research I am working on. The research I am conducting is about speech in Scotland.	
I am interested in a particular speech sound heard in some areas in Scotland.	
<b>The sound is produced by breathing in whilst speaking instead of breathing out, and in most cases it will happen on the words 'aye' or 'yep' where the speaker is interjecting, not making a statement. <u>It sounds very much like a gasp</u>.</b> I believe the origins of this sound are Norse, and it is heard in both English and Gaelic. The technical term for this kind of speech is 'ingressive pulmonic'.	



The same sound is heard all over the North Atlantic region, in Scandinavia, Iceland, Ireland, Scotland and Maritime Canada. Whilst several studies have been carried out overseas, so far no one has looked at the phenomenon in Scotland. My research will be a first step towards this.

I would be really very grateful if you could spare the time to help me. The attached questionnaire should take no more than a minute to complete as it is very short. It can be filled in on your computer and returned to me by email at @ucl.ac.uk or, if you prefer, by post to the address above. I will keep all personal information confidential.

**Please only consider the speech of people from the area in which you work, not relatives or friends elsewhere in Scotland.** If you want to make comments on speech from another region (perhaps because you grew up elsewhere) I would be very happy to receive them in the comments box.

**If no one in your area uses ingressive speech, that is equally important!**

Please return the form to me anyway stating 'no' to the second question.

If you are interested in my research and would like a copy of my findings, I can keep you updated, and will let you know when the completed survey is available. You are also welcome to telephone me to discuss the project if you would like to find out more about it. My phone number is 020 ....

Because of my deadline, I hope to receive your comments **by July 10th.**

With my sincere thanks and best wishes,

Eleanor Thom

## Questionnaire

### 1. Which Council district is your church situated in?

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Aberdeen City       | <input type="checkbox"/> Edinburgh         | <input type="checkbox"/> Perth & Kinross     |
| <input type="checkbox"/> Aberdeenshire       | <input type="checkbox"/> Falkirk           | <input type="checkbox"/> Renfrewshire        |
| <input type="checkbox"/> Angus               | <input type="checkbox"/> Fife              | <input type="checkbox"/> Scottish Borders    |
| <input type="checkbox"/> Argyll & Bute       | <input type="checkbox"/> Glasgow           | <input type="checkbox"/> Shetland            |
| <input type="checkbox"/> Clackmannanshire    | <input type="checkbox"/> Highland          | <input type="checkbox"/> South Ayrshire      |
| <input type="checkbox"/> Dumfries & Galloway | <input type="checkbox"/> Inverclyde        | <input type="checkbox"/> South Lanarkshire   |
| <input type="checkbox"/> Dundee City         | <input type="checkbox"/> Midlothian        | <input type="checkbox"/> Stirling            |
| <input type="checkbox"/> E Ayrshire          | <input type="checkbox"/> Moray             | <input type="checkbox"/> West Dunbartonshire |
| <input type="checkbox"/> E Dunbartonshire    | <input type="checkbox"/> North Ayrshire    | <input type="checkbox"/> West Lothian        |
| <input type="checkbox"/> E Lothian           | <input type="checkbox"/> North Lanarkshire | <input type="checkbox"/> Western Isles       |
| <input type="checkbox"/> E Renfrewshire      | <input type="checkbox"/> Orkney            |  |

**In which town or village is your church? You can write in the grey box below by clicking into it (it will expand to fit what you type):**

.....

**2. Pulmonic Ingressive Speech (usually heard on the words 'aye' or 'yep' when said alone) sounds like a gasp. Some people may use this and others may not. Do you think this is something that any speakers from the Council region you specified above do?**

☐ Yes ☐ No

If you answered 'yes' please continue to question 3.

If you answered 'no' please fill in the comments box and then return the form.

3. Do you have the impression that people who use this sound in their speech are mainly (please tick all that apply):

- ☐ Men
- ☐ Women
- ☐ Men and Women
- ☐ Younger
- ☐ Older
- ☐ All ages
- ☐ Part of a particular profession or group (please state which profession or group in the grey box below)

4. Other than 'aye' and 'yep' have you heard people use ingressive speech on any other words or phrases (either in Gaelic or English)?

- ☐ Yes ☐ No

5. If you answered 'yes' to question 4, please state below which words or phrases you have heard people say using ingressive speech (either in Gaelic or English).

6. Would you be willing for me to contact you by email, if needed, regarding your answers?

- ☐ Yes ☐ No

**COMMENTS AND OBSERVATIONS**  
(please state clearly below if your comments concern another region)

Thank you very much for your help. You can return this questionnaire by email to [@ucl.ac.uk](mailto:@ucl.ac.uk)

## ***Appendix 2***

**Comments received from survey respondents and contacts that sent emails about the project are below. Their location is in brackets, and they are marked negative or positive depending on whether they heard IPS locally. In some cases their comments concern other regions.**

I can't say I've noticed anything specific about my constituent's speech. As we have residents from all over the UK and abroad as well as local Shetlanders it's difficult to (*illegible*) about how they speak (Shetland, negative).

My ward lies in the xxxx area and local speech is more akin to Glasgow accents than West Highland. However, my late father-in-law was from the Isle of Lewis and was a first language Gaelic speaker and I'm aware of Gaelic speaking mannerisms. It is very common with Gaelic speakers, particularly older women, to speak on the inhalation, often, I believe, when they are imparting bad news or news 'in confidence' e.g. 'oh it was terrible, terrible, so it was' (Argyll, negative).

'Pulmonic ingressive speech sounds occur mostly with rural elderly people – both 'aye' (yes) and as you say, showing you're paying attention to the speaker. Less often with people from fishery background (Aberdeenshire, positive).

More colloquial speech from rural areas and backgrounds (Angus, positive).

I'm talking about when I regularly visited Shetland in the 1960s and 70s. I was aware of old folk speaking thus then, but I haven't been sufficiently in contact with rural folk in recent years (Shetland, positive).

I am intrigued by your research as I was made very aware of the phenomenon when I first moved to the Black Isle 20 years ago. At the time I was a student at Edinburgh and was fortunate enough to have a six week placement in Iceland immediately before my move north. I was struck by the way people in Iceland breathed in while saying *Jau*, (yes), and was naturally curious to find the same sort of feature in the speech of many families in what was then a new part of Scotland to me.

I was also struck by some identical words used by the farming communities in Scotland and Iceland, such as 'gimmer' which is a sheep of a certain age. Hence my observation about the ingression being more common among agricultural workers.

I would be interested to hear the results of your research. (Highland, positive).

The use of this type of speech is something I remember from my youth growing up in the Scottish Borders. It was prevalent amongst those who were farmers or farm workers. It is something that my relatives in Elgin used frequently and to be honest I had forgotten this until filling out this questionnaire. I suspect that with the decline in Scots language and the growth of American English it is disappearing from the language (Fife, positive).

Used when unsure what to say, to be polite, or a form of greeting or acknowledgement of understanding (Highland, positive).

The use of this sound is primarily restricted to rural areas or those of rural origin. I regard it as a normal use of speech as my own mother used it as part of everyday speech, especially when using Scots or Lallans. I can't think of any younger people in my area who use this so it may well be dying out along with Scots.

I have lived all my life in the Perthshire area and have heard it used in all regions of the county.

I am also aware that it is used extensively in Aberdeenshire and Angus.

I was interested in your suggestion that this may be of Norse origin as I had always thought that it might be Pictish (Perth and Kinross, positive).

The use of 'aye' in an ingressive way is very characteristic of rural Aberdeenshire, and particularly among the older people. One of my parishioners says that he uses it, and his 53-year-old son too, but his son's children pick him up on it as an oddity of speech, reflecting the increasing change from dialect to English (Aberdeenshire, positive).

Yes I have come across exactly what you describe with indrawn 'aye' in one farming family outside Castle Douglas, in Kirkcudbrightshire. The father's family originally came from Ireland, but his wife local to the South West probably did it more distinctly than he (Fife, negative).

I have not come across this in Glasgow but I have elsewhere. I grew up in Dalkeith, 7 miles south of Edinburgh and recall 'aye' ingressively amongst older men, often from farms. I have a friend who comes from Blairgowrie. We were solicitors together in Edinburgh, he still is and he talked about the berry pickers (raspberries) on his father's farm. Both B and P were ingressive. I have come across ingressive B in Glasgow but can not place where or from whom (Glasgow, negative).

I have a feeling that this kind of thing is more probably heard in the north west of Scotland and possibly in Aberdeenshire, Angus and Dundee City – all north east. I previously worked in Fife and don't remember hearing it there (Edinburgh, negative).

I lived in Orkney for 15 months and I did hear pulmonic ingressive speech, especially on aye. It is also a characteristic of the speech of my relatives from the Island of Skye – indeed this is very characteristic of their speech – I hadn't realised it until I received your email! (West Dunbartonshire, negative).

This is something I have heard in the West Coast, Greenock area as a child and occasionally where I used to live in Fife but not very much here in Peebles or in the Scottish Borders (Scottish Borders, negative).

The ward I represent is atypical of Highland. Much of the population, including myself, came here from 1950 onwards from all parts of the UK, especially NW England and the central belt of Scotland. Therefore, I have doubts that my response is of much benefit to your research if you are looking for regional dialect. My response comes from those I would consider native to the region, but I have also experienced this from my wife's relatives who come from the Nairn area. I may be able to furnish you with some contacts who would consider themselves Caithness dialect experts. (Highland, positive).

I am afraid my remarks are not too helpful, because I have not observed the habit very carefully. I occasionally do it, usually with the words 'yeah' or 'yep'. I would be interested to hear about the results of your study (Shetland, positive).

*Note:* this respondent later got in touch again and added that he had also used it on the word 'no'. He further commented 'I have a small impression that I do it when I am feeling 'resigned' about things - there is an atmosphere of 'ah well' about the situation'.

I can think of two people in our East Lothian village, one a retired zoology lecturer in his mid-80s (actually, my dad!) the other a newly retired GP. Each has lived in different parts of Scotland (my Dad: Dundee of Aberdonian parents, then Glasgow, then East Lothian; the GP: Glasgow, then East Lothian) (East Lothian, positive).

I had not given any thought to this, but certainly do it myself, and on reflection, have become aware of it in others. Had not previously thought about it, and find myself interested in your work. Best of luck (Shetland, positive).

My replies are relevant to the region I live in at present but similar situations apply to other parts of Highlands and Islands mainly from Gaelic speaking people (Highland, positive).

The use of pulmonary ingressive in this area, while common, seems not to be prevalent among younger people. I wonder whether this is because this sort of articulation is not encouraged at school? (Inverclyde, positive).

I haven't been here long enough, and note that many local people are incomers from other parts of Scotland (notably southwest). They may not be typical of the region. Further north would be more reliable (Perth and Kinross, positive).

It is noticeable that there is a small group, generally tracing back to the highlands where there is a guttural intake which has no word association, but acts as a 'guggle' confirming that they are listening and following the conversation. Mainly in the older generation (Falkirk, positive).

I would say that this is quite a noticeable feature of speech locally and seems to be common across the age and social spectrum. As a former student of languages myself, I'm very interested in your research and would be glad to hear of your conclusions (Scottish Borders, positive).

Yes, these words are commonly used in Aberdeenshire, Morayshire and Banffshire, mostly by people who still speak the local dialect (Aberdeenshire, positive).

Speech sounds as identified are typically common in Lewis – usually short, one syllable words – used in exasperation situations or where emphasis is required or confirmation expected (Western Isles, positive).

For example, here is in this locality a tendency to pronounce 'bus' almost akin to 'bass' (as 'sea bass'); in other words the 'u' becomes almost a long 'a'. The language of the area is English, there is very little Gaelic spoken by the 'locals' (I'm an 'incomer' arriving here almost three years ago from Lanarkshire) (Highland, positive).



Tricky one this, never really realised until you mentioned it. My ward has many non locals living here so it is difficult to give a sweeping statement about this. Certainly I tend to use this when listening to constituents or friends, and I have heard it back on occasions. Whether the people using it are originally from here is difficult to say. In Scotland it is certainly prominent in the West Coast ie Glasgow, the islands and in the Grampian area, but cant say for certain anywhere else. I guess that it is a polite way of interjecting in a discussion without stopping the flow coming from whom ever you are speaking to.

For the record I have only lived here for 10 years, originally being from West Lothian and my parents from Glasgow, so this probably has affected me. Please get back in touch if you feel that I can explain things better on the phone or you have any further questions. Good luck with your research (Perth and Kinross, positive).

I write my comments as one who has returned after over 50 years living in New Zealand and trying to come to grips with various Glaswegian accents.

One woman regularly uses 'aye' in this way followed almost immediately with normal aspiration as if to modify an over-reaction or emphasis.

I have the impression that it is the older and lower socio-economic group that speaks in this way and in this part of Glasgow that would include a strong Irish influence.

Young men may speak in this manner but I am still at a loss often to interpret their guttural grunts in any meaningful way (Glasgow, positive).

I think in our community the speech form occurs as a way of avoiding conversation while at the same time filling a silence (East Lothian, positive).

Having grown up in South Ayrshire I know that you will find that ingressive speech is used there also (Glasgow, positive).

This is something I had never thought about before, but the sound you describe is (to my mind) part of Gaelic speech as a normal interjection (?) to fill gaps in speech.

I cannot give direct examples, as I am not fluent in Gaelic, but when thinking about this, I found that I spoke in English using this type of speech. Asking my wife (who is English) she tells me that I do so with 'fillers' in my speech, such as 'well, well' or such vacuous statements. It would appear to be an acknowledgement of listening rather than anything else (Western Isles, positive).

There are many ism's in the Scots language which are in use today, and they vary from area to area, a classic example of the diversity would be comparing, the areas of Aberdeenshire against perhaps Fife or Glasgow (Perth and Kinross, positive).

Have noticed this characteristic used mainly by people who are natives of the Western Isles and North Highlands (Highland, negative).

As you will see by my answers, I have not been conscious of ingressive speech in this area. It doesn't mean of course that it is not common here, it is just that I haven't heard it personally. I do confess that I myself use ingressive speech. I was brought up on the Isle of Skye (my mother is from the Western Isles and is a Gaelic speaker while my father is from Beauly, Inverness-shire). I would say that it is definitely more obvious in the men. Words where ingressive speech is used would be words like 'well, just, oh well!, right'. There are also words in Gaelic where ingressive speech is used, especially on some emphatic phrases, for example, when you call out someone's name – 'A' Mhairi!' The definite article 'a' is ingressive in some areas. I believe the ingressive speech is especially common amongst Gaelic speakers in the central Hebrides. If I were to draw a circle around Skye and Lochalsh and then draw another circle around that circle until these rings covered much of the Highlands and Islands. I would then suggest that the nearer you are to the inner circle, ingressive speech will be more commonly used. The further you come out to the outer circle rings, then the ingressive speech will be used less. Places on the outer rings tend to have harder plosives and harder endings in their speech (Stornoway in Lewis, Orkney, Shetland, Aberdeen, Moray, Aviemore). Sometimes I feel that places in the inner circle like Knoidart, Mallaig, parts of North Uist, parts of South Harris, Skye, Raasay, Kyle, Plockton, Applecross, Gairloch etc, will have ingressive speech used more commonly. I would say that the Island of Lewis is difficult to put into a theory as Lewis itself tends to vary from village to village. (North Ayrshire, negative).

Some years ago I lived for 14 months in Island of Lewis in Outer Hebrides – where this form of speech is very common amongst native Gaelic speakers – whether they are speaking in Gaelic or English. Men, women and children used this intake of breath at times whilst speaking and I am aware that they would say for example ‘yes’ with an intake of breath which sounded very strange and a bit like a contradiction in terms!!!

I have also lived in Aberdeen, Dundee, Edinburgh and Bridge of Earn Perthshire, and currently live in Glasgow, and I do not recall hearing this speech pattern in any of these areas.

People moving from Isle of Lewis or Harris to other areas could very well retain this form of speech. My first wife is from Skye. There are also some indications of it amongst natives of Skye but I would not say it is so pronounced there (Inverclyde, negative).

I used to live in Newtonmore (Highland region) and this was a very common form of speech – so much so I adopted it myself. I also had friends who lived around Loch Lomond and they use it too. I am about to move parishes and will be living on the island of Tiree from the middle of August. I suspect I shall hear this a lot. (Clackmannanshire, negative).

I checked the above with the headmaster of the local school and with several others (locals and incomers) who all agree it is not a local characteristic (Dumfries and Galloway, negative).

Many of my relatives from Skye (including my dad) use this speech sound regularly, particularly in Gaelic with a kind of resigned ‘*tha*’, often accompanied by a disapproving shake of the head (Orkney, positive).

Strictly speaking I have heard what you are looking for – perhaps two or three times in 19 years. I would not consider it any kind of local dialect (East Lothian, negative).

Though I minister in Angus I have extensive dealings with Dundee and Perth and Kinross – and am not aware of pulmonic ingressive speech in either of those areas (Angus, negative).

I am not particularly aware of the characteristic you mention occurring either where I live or work (Midlothian, negative).

In the Castle Douglas area these words are spoken when breathing out not in. I have lived in Castle Douglas all my life (44 years) (Dumfries and Galloway, negative).

This is not something I or my colleagues are aware of (Renfrewshire, negative).

I've just tried and I can't manage it! (Glasgow, negative).

This is not something I have ever heard of. I was brought up in North Argyll and then lived in Larbert in Stirlingshire and Clackmannan in Clackmannanshire. Although I am now a minister I was a secondary school teacher for 16 years in Bannockburn and Denny, both in Stirlingshire. Sorry not to be more helpful. Good luck with your research (Angus, negative).

Fascinating research but I am not aware of it here (Edinburgh, negative).

I am not particularly sure of your research. My first thoughts are that this speech pattern is not prevalent here. I will however look out for it now and get back to you if my view changes from the above (Argyll and Bute, negative).

The more accurate response would be that I do not know the situation for my ward as a whole because I have not met everyone. I can only say that I have never noticed ingressive speech but I am sure I will look out for it in the future (Angus, negative).

I am certainly aware of the speech trait to which you refer, although to be honest I thought that this habit was more of a 'mannerism' than anything else.

I do not know of anyone who makes this sound, but perhaps a few phone calls to West Highland numbers would reap some response? (Argyll and Bute, negative).

I have no appreciation of this type of speech in the area I represent. That does not mean it is absent, just that it is not apparent to me. The local population is considerably diluted by migrants from other areas including a significant number of English people. This may well mask any local phenomena but I think I would have picked it up in the core areas of the old settlements if it were a regular feature (Perth and Kinross, negative).

Whilst I have not paid specific attention to the phenomenon that you describe, I am aware of the existence of such a linguistic feature in the Western Isles. Whilst not something for which I might be on the alert, I am not conscious of its use in East Ayrshire. I had not realised that the feature was geographically confined. In my limited experience of the phenomenon, I was not conscious of 'aye' or 'yep' being the chiefly applicable words. Generally I have normally taken the pulmonic ingression technique to be used as an expression of immediate response, indicating sincerity – the person does not pause to reflect or consider what the implications of a particular answer might be: therefore, the immediacy of the reply could be taken as a token of lack of guile. When used in the middle of a flow of conversation, the intent may be to prevent interruptions as the speaker does not need to pause for breath. In other cases, the speaker may simply be reflecting on the mysterious or perplexing or disconcerting nature of what has been said or attempting to indicate that what has been said should be thought of as out of the ordinary (East Ayrshire, negative).

I know of the phenomenon, largely because my dentist commented on the fact that I do it myself (presumably picked up in the North), but that is about as far as it goes (email communication).

A personal stereotype of older Scottish folk might be three old men sitting round a table in a quiet pub saying nothing but except for an occasional pulmonic ingressive "aye", possibly followed by a phatic "it's a hard life" type statement. I always thought of this as a Scottish thing until I heard Estonians doing it (email communication).

All the people I knew that did it [IPS in longer utterances] (it was relatively common among Gaelic speakers of older generations) have passed away – this was in Applecross on the mainland – although I dare say you will find some living examples, perhaps in the islands, like Harris. Anecdotally it seemed to me to be more common in women than men, although I cannot say if that observation has any statistical validity (email communication).

I was very interested to hear that you have been looking into this! I remember my grandmother (from South Uist) doing this, and I've often talked to other Gaelic speakers about it. It seems to be a concept that's entirely foreign to English speakers that I've mentioned it to.

I'm sure I can remember words like "aye" and "well" said like this, often repeated on the same in-breath, and I'm fairly sure that I've heard longer sentences too. For some reason I've got the impression that the subject talked about was negative or critical, or at least reflective.

Have you spoken to any Gaelic linguists about it? I don't remember it ever coming up in university (I studied the Celtic languages).

I'd love to hear any conclusions that you might come to regarding its origin/usage! (Email communication).

### ***Appendix 3***

**An article by the journalist Ruairidh Macilleathain, which appeared in his column 'Am perusa' in the Inverness Courier on Friday July 1<sup>st</sup> 2005.**

*Tha tè aig Colaiste an Oilthigh ann an Lunnainn a' rannsachadh cainnt tharraing-analach am measg nan Gàidheal. "Dè?" tha sibh a' faighneachd! 'S e a th' innte a' chainnt a chluinnear bho chuideigin a bhruidhneas nuair a tha e no i a' tarraing anail, seach a bhith a' leigeil anail. Bha i rudeigin cumanta am measg nan seann Ghàidheal agus, leis gur e ceann a tuath a' Chuain Siar fear de na h-àiteachan air an t-saoghal far am faighear i, tha cuid dhen*

*bheachd gur e dileab a th' innte a dh'fhàg luchd-labhairt an t-Seann  
Lochlannais anns na dùthchannan far an robh iad uaireigin. Tha e doirbh  
fhaicinn gu robh i air èirigh leatha fhèin ann an Alba, gun a bhith a' tighinn bho  
àite air choreigin eile, oir 's ann tric a gheibheadh daoine an seo meanbh-  
chuileagan air an anail, agus iad a' bruidhinn taobh a-muigh an taighe air  
feasgar samhraidh!*

*Tha e coltach nach tug duine sam bith sùil gheur air a' ghnothach anns an  
Rìoghachd Aonaichte thuige seo agus saoilidh mi gum bi e inntinneach  
faighinn a-mach dè dh'ionnsaicheas an tè-rannsachaidh bhon obair aice. Tha  
cuimhne agam fhìn air cuid de sheann bhoireannaich na Comraich, nach eil  
còmhla rinn tuilleadh, a bhruidhneadh mar sin – agus aon tè gu h-àraidh a  
chanadh seantansan slàna nuair a bha i a' tarraing anail. Ach ma tha a leithid  
de chainnt fhathast beò ann air tìr-mòr, tha i a' sìoladh às fo bhuidh na  
Beurla.*

*Ach 's dòcha gu bheil i fhathast beò anns na h-eileanan...? Ma tha sibh  
eòlach air duine sam bith a bhruidhneas mar sin, no ma tha cainnt mar sin  
agaibh clàraichte, an cuir sibh brath thugam – roddy@*

Translation:

A girl at University College London is researching ingressive speech amongst the Gaels. "What?" I hear you asking! This is what you hear when someone speaks whilst breathing in, rather than breathing out. It was somewhat

common among the old Gaels, and because the North Atlantic is one of the few places in the world where you find this phenomenon, some think that it's a legacy that was left by Old Norse speakers in the countries where they settled. It's difficult to imagine such a thing arising in Scotland of its own accord. It must have originated elsewhere, for as it is, here in Scotland people already breathe in midges whilst just having a chat outside their homes on a summer evening!

It appears that no one's ever looked at this in detail in Britain up until now, and I think it will be interesting to see what she finds out from her research. I myself have memories of some of the old ladies in Applecross, who are no longer with us, but who used to speak in this way. One woman in particular would speak entire sentences whilst breathing in. If this kind of speaking is still around on the mainland, it's dying out under the influence of English.

But maybe it's still alive in the islands...? If you know anyone who speaks like this, or if you have a recording of it, could you mail me – [rodny@](mailto:rodny@)



## ***Appendix 4***

The recordings listed below were scanned for examples of IPS (roughly 5 hours of material, although most of the recordings also include songs). Where examples are on a reel with further recordings, the whole reel was listened to. All of the tapes are held at Edinburgh University, School of Scottish Studies.

SA1951.08	SA1956.025	SA1960.003
SA1952.142-144	SA1956.030	SA1960.018
SA1953.033	SA1957.78 -79	SA1957.075 – 76
SA1953.046/046a	SA1958.027	SA1974.113
SA1953.271	SA1958.080	SA1978.086